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ABSTRACT

A seminar was conducted which provides a foundation upon which research, education, and action programs might be based as a state university brings its programs to focus more fully on the economic and social problems of rural areas. Papers presented covered the following subjects: objectives of community development, trends related to rural areas, rural industrialization, political ideology, economic attachment to agriculture, public policy, food processing industries, social change, population redistribution, distribution of physicians, adaption of local and regional government, natural resource use, recreational development, national development, modern living, economically disadvantaged, labor markets, and growth trends. (CK)

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SEMINAR PAPERS
Rural Community Development Seminar:
focus on iowa

AGRICULTURAL AND ECONOMIC DEVELOPMENT

**THE CENTER FOR
AGRICULTURAL AND
RURAL DEVELOPMENT
Iowa State University**

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PAPERS
# of the
RURAL COMMUNITY DEVELOPMENT SEMINAR: FOCUS ON IOWA

Sponsored by the
Center for Agricultural and Rural Development
IOWA STATE UNIVERSITY

January-May 1972

Memorial Union
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Ames, Iowa

RD
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Foreword

WITH THE CLOSE of World War II, our nation undertook two major goals it had never before attempted. Immediately prior to the war, it had gone through an extensive period of both isolationism and depression. Hence, with great effort and investment it assumed two goals of (a) economic growth as a means both to attain higher per capita incomes and avert massive unemployment, and (b) international security and development. To an extent, these two major programs complemented and furthered each other.

The nation has been able to effectively attain its growth goal. While smaller recessions have not yet been eliminated, massive depression and unemployment of the nature of the 1930's and earlier periods have been averted. Per capita income has grown to levels which might have been considered unbelievable a half century back. Henry Wallace's goal of a "car in every garage and a chicken in every pot" is completely eclipsed by the American standard of living in the 1970's.

But while national economic growth has accomodated a record work force and brought average family incomes to a level previously believed unattainable, not all families have been equal participants in these gains. More specifically, typical rural communities have not participated equitably in national economic growth of the last two decades. Many country towns are in a rapid state of decay. This decay is reflected in fewer employment opportunities and commerce in rural areas. It also is reflected in an erosion of health, recreational, and other public and human services. Only in the last decade has the nation come to realize that aggregate national growth does not guarantee progress equally in cities and rural areas. Problems of violence, congestion, pollution, and other attributes of large population centers also have drawn the country's attention to the problems and possibilities of rural areas.

The nation is now beginning to propose and evaluate different programs to solve the income, social, and welfare problems of rural areas--and to bring better balances in the distribution of population, economic opportunity, and the living environment. Rural development is a broad term used to focus on these programs related to nonmetropolitan areas where nearly a third of the nation's population and families reside.

Rural development has become an important concern for our universities. It is a process and set of problems which clamor for research and education from many disciplines. In creating the Center for Agricultural and Rural Development, Iowa State University has committed itself to a vigorous program in all aspects of rural development. The seminar reported in this monograph is a reflection of this multidisciplinary concern. The seminar was organized and structured to review the state of problems in rural areas, to propose alternative means for their solution, and to suggest needed areas of research, action, and education.

The staff seminar was conducted over the first six months of 1972. It met once each week and included papers by specialists from various fields of knowledge. It provides a foundation upon which research, education, and action programs might be based as Iowa State University brings its programs to focus more fully and precisely on the economic and social problems of the state's dominating rural areas.

Earl O. Heady, Director
Center for Agricultural and Rural Development

OBJECTIVES OF RURAL COMMUNITY DEVELOPMENT AND THEIR ATTAINMENT

Consistencies and Competition Among Various Social and Economic Aggregates

By Earl O. Heady
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Director, Center for Agricultural and Rural Development
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"The challenging task in rural community development is to identify the nature, location and extent of inequities falling on rural communities and various population strata of them; then to evaluate and provide alternative means for alleviating or redressing them."

"Many decades and much less knowledge back, and under much more difficult circumstances, the public of the time decided to develop the resources (land and space) for the needs of the people. They did so and successfully for the times. Certainly we can be as imaginative now."

RURAL COMMUNITY DEVELOPMENT has become a popular concept promoted by persons both aspiring for or already in national offices and, to an extent, even by urban leaders. It has long been a hope of leaders in rural communities and has some recent history in state efforts. Certainly this broader and more intense attention is overdue. The nonfarm, aged, small farm and underemployed groups of rural communities have long constituted a neglected strata within our national policies and public expenditures. We have not had specific governmental policies for these groups which parallel public programs for large commercial farms or urban centers. This is true even though rural communities have the greatest relative concentration of persons disadvantaged by age, low income, underemployment and education, health, housing and recreational facilities.

With recent broad and intense interest, it would seem that rural community development "need only happen, since everyone is for it". For most communities, however, instant development is not in sight because it involves complex processes which typically are based on group decisions and legislation. But with the sudden and broad interest, we might suppose the goals of the many groups now interested in or promoting rural development to be entirely consistent; that only benefits and never costs flow from the process. Were this entirely true, consensus would have prevailed and group decisions on methods of attainment and financing would have been easy.

Hopefully, we now have a developing consensus on the urgent need for policies and programs to redress inequities falling on the disadvantaged groups of our rural communities. The crux of the rural development problem is the distribution of benefits and costs of national economic development. The process of national economic development spews its gains and sacrifices inequitably among geographic, demographic, sectoral and economic groups. Typical rural communities are geographically isolated from the major benefits of economic development in its main forms in a highly advanced country such as the United States. Further, major demographic, sectoral and economic categories which gain least or sacrifice most from extended national economic development are disproportionally located in rural areas. Rural community policies and programs should be concerned basically with efficient means whereby these inequities can be erased. Minimally, they should be directed at removing costs in the form of capital losses and dwindling employment and welfare opportunities which fall on a large segment of rural community residents.

While a national consensus of needs seems to be developing, it is not entirely clear that the goals and methods proposed to attain them are entirely consistent among major groups expressing concern over some facet of rural area development. If we are imaginative, means do exist by which the goals and means for attaining rural area development can be made noncompetitive among groups and for the majority of relevant communities. To understand the needs, it may be well to outline where and why competition in developmental goals, means and distribution may exist.

Interest Groups and their Goals

Rural community development involves processes, phenomena, changes and goals which have many different meanings to various groups and individuals. Some groups are still trying to define the nature, meaning and purposes of rural development. The complexity of meaningful definitions and operational purposes stems partly from the still-evolving societal concerns over equity, economic opportunity, population distribution, environment, quality of living and other facets of economic development in a rich and highly developed country where national developmental potentials are still great. These broad national concerns are having spillover effects which place increasing emphasis on rural area development possibilities.

Rural area development itself has gone through various orientations and emphases in the short span of about 15 years since certain of its problems became sufficiently recognized and programs were initiated accordingly in universities and governmental agencies. In an initial phase, the concerns of rural area development were particularly in terms of employment opportunities for workers and families being displaced from farms. Goals were to produce employment opportunities, within the locality or elsewhere, to absorb this displaced farm labor. In a second and somewhat recent phase of concern, emphasis has turned as well to other strata of rural communities faced with declining economic opportunity, increasing costs of public services and declining health, recreational and consumer services. In a third phase of concern, rural area development has become more nearly a national issue and is viewed broadly as a means of alleviating the environmental, social, population and related problems of cities. Perhaps this phase has the prospects of backing up the concept with the "muscle" of necessary legislation, public appropriations and programs. But it is not apparent that policies per se which use rural development as a means of solving broad problems of cities and population distribution are those which will solve simultaneously the majority of rural community problems which have their basic cause in the technological transformation of agriculture.

The three publics most active and best organized in the affairs of rural area development are still those of (a) farmers concerned with farm prices and income, (b) chambers of commerce in rural towns where "some developmental momentum already is underway" (or a fair foundation for it already prevails in population base, recreational or other resources) and (c) national leaders who are concerned with the intense social and environmental problems of cities. To farm groups and leaders, rural area development typically means farm programs which have a direct impact in higher farm income, and subsequently a secondary or multiplier effect in generating employment and economic activity throughout the community. To the commercial leaders in individual, rural towns, rural community development typically is sought to have a direct impact in the addition of industry, public facilities and recreational or other services directly linked with greater employment or expenditures by "foreign" consumers who import manufactured goods from it or make seasonal migrations into the community. The greater employment and consumer demand is expected to increase the local population and also to have secondary or multiplier effects throughout the traditional business establishments and institutions of the particular town. Urban leaders and legislators who have joined the rural development movement are directly concerned with stemming the growing population concentration. Rural community development is emphasized mainly to the extent that it has the potential first impact of dispersing the population through such means as new cities.

The direct interests and goals of these three major groups which are now putting more "muscle" behind the broad concept are not necessarily consistent over all facets of rural community development. For example, farm programs of the type prevailing over recent decades do generate more income for commercial farmers. They serve as one element of demand for consumers and some classes of producer's goods within the community. However, since their main benefits go to larger farmers, they help bring about larger and fewer farms. The may now even have net negative multiplier effects throughout the community as the growing number of big family farms causes further reduction in employment by agriculture and even dampens the total farm demand for capital items such as machinery and buildings. Where rural towns pursue a single objective of industrialization to increase employment in manufacturing and services, the implied developmental and income effect throughout the farm sector, particularly in a state such as Iowa which is not a producer of commodities such as vegetables consumed at the location but which produces mainly standard products flowing into the national market, the economic impact on the farm sector of the rural community is practically nil. Finally, if the problems of urban congestion are tackled through instruments such as new cities dispersed over the countryside, a few rural communities can gain in development. But in even more communities, the decline in population and economic activity will be accentuated. To add a city of 100,000 in western Kansas or south central Iowa which supplies near-at-hand employment in the region can speed migration from and economic decline of the hinterland communities. Five new cities of 100,000 each in rural communities of Iowa over the next 10 years could add to the state's gross domestic product and tax base. But outlying communities of the state would be drained more rapidly of their population and economic base and problems of efficient public and consumer services at reasonable costs would be accentuated. In other words, a developmental thrust which benefits an economic and social aggregate such as a region or state need not, or seldom will, similarly benefit all rural communities contained within the aggregate. It will, in fact, bring economic and social costs to some communities.

Other Groups With Specific Interests

The three active groups mentioned above have somewhat effective organized means for promoting their interests for rural area development to state and federal governments. Among others, two additional groups have intense interest in trends and structures of rural communities.

Aggregatively, however, they are either less organized or have less effective means for promoting their interests. A fourth major group concerned with developmental status are those families and persons of rural communities which are declining in economic opportunity and social services and mainly want to see the trend arrested or offset. Their interest in state and federal programs or possibilities is not the same as for those communities which "already have everything going" and simply want to or can add more industry and employment to what they already have. Unless the downtrend in rural area development is arrested or offset, this fourth group has a miserable outlook for two decades or longer. Increasingly their community is characterized by declining capital values, reduced income, an older population and deteriorating public and consumer services. A program of population redistribution to eliminate city problems or of extended community industrialization in the region is not their first concern. Enlarged farm programs which will bring bigger payments and benefits to a declining number of high-income family farms will not solve their problems. They have borne heavy costs associated with advanced economic development at state and national levels. They are faced with even more. The majority of small towns and many county seats cannot start out from where they are and transform themselves into an industrial complex in a dozen years. Many do not even have this among their goals and are more concerned with arresting the ongoing deterioration in economic activity, in the supply and cost of services and in the general social millieu. For others, the choice almost reduces to slowing down the rate of decline to a level where it can be digested over a time period allowing a gradual adjustment and which does not force a drastic reduction in economic opportunity and capital values. Both farms and rural towns have been experiencing a reduction in employment and number of business establishments. But they have had contrasting fortunes in value of capital assets. As is vividly illustrated through boarded up stores, dwellings with broken windows and crumbling chimneys and brush covered yards, residents of small towns are going through a period of drastic and complete capital losses. While abandoned farmsteads now populate the countryside, the farm sector has had a healthy gain in asset values as government programs and competition of enlarging farms drove the price of land upward. A farm owner squeezed out of agriculture because of economic circumstances typically can sell his real estate assets for considerably more than he paid. The small town or village proprietor more typically finds his capital value liquidated along with his economic opportunity. More than industrialization, also, the problem complex of this group implies (a) subsidy in supplying efficient public and consumer services, (b) tax relief to offset the indirect costs of state and national development which fall on them, (c) public aid in spatial reorganization of the mechanisms of education, local government and other public services, and (d) facilities for retraining and eventual employment in smaller number of centers which have growth opportunities.

Indirectly, the tax paying public is a fifth major group with an intense interest in the structure and development of rural communities. With tax burdens considered to be heavy and the high costs of public services in sparsely populated and small administrative unit, the implied adjustment is one of consolidation of service supplying units. Consolidation itself implies new structures of communities with gains to some and costs to others of the reorganized community. The implied interest of tax payers is almost entirely that of erasing some communities and their structures in order that larger ones can be organized to provide public services at lower unit costs.

A sixth major group does have a large stake in the structure and services of rural communities. Its interest in the specific community is more transitory, however, and is in terms of family and public investment in itself as a human resource to be employed in "any community whereever" with attractive economic and social opportunities. It is the youth group which has not yet entered the labor force but whose opportunities rest on the resources and structure of the community. As with the taxpayer group, its interest does not rest on the development of the particular community, but may even imply dissolution of it in order that a larger community can provide a wider set and improved quality of educational or vocational services for employment anywhere in the nation and state. However, without revitalized and reorganized communities, this group also bears an inequitable portion of the cost of national and state economic development which bring gains in growth to industrializing centers at the expense of population and economic activity in the hinterland rural communities. The cost is in terms of educational and training facilities which are inadequate to provide these youth with economic opportunities comparable to those of wealthy and growing communities and population centers.

Rural Community Development, A Problem in Equity

I now return to the proposition that the crux of the rural community development problem is one of inequity in the distribution of gains and costs of technological and economic development at state and national levels. As a state we feel that we should have an equitable share of national economic development and that burdens should not fall on us because certain national policies and tendencies favor it elsewhere. The challenging task in rural community development is to identify the nature, location and extent of inequities falling on rural communities and various population strata of them; then to evaluate and provide alternative means for alleviating or redressing them. In this context, a central challenge is to eliminate the inequities in low income, underemployment, and unfavorable living and welfare conditions in nonmetropolitan areas. In a few favored locations, an important extent of these inequities can be erased through industrialization. In a greater number, however, the inequities can be removed only through entirely different means and programs. Broadly, elimination of inequities or provision of economic and social opportunity must be through public means and policies.

Broad Concern in Inequity

Inequitable distributions of the gains and costs of development among communities and between metropolitan and nonmetropolitan groups now promises to be the foundation upon which broader public concerns over rural area development will come to rest. Two decades ago, almost the whole national concern was growth without regards to its spatial distribution or the distribution of its social-economic costs and benefits. Growth in GNP was given nearly the entire weight in the national objective function, just as it yet is in many developing countries. Zero weight was given the variables of decline in rural or spatially and market isolated communities. Evidently we now are on the verge of catching up with some less developed countries in asking: what are the costs of development and where do they fall? As certain costs of population concentration began to fall heavily upon urban centers, some leaders have come to examine rural area development as a means of lessening certain costs attached to development which fall on cities. It has been scarcely a decade back that numerous spokesmen were championing growth in aggregate GNP as the sole major solution of farm and rural area problems (some even measuring the magnitude of growth in GNP required to absorb the flow of labor out of agriculture and rural communities).

But just as unrestrained and heavily promoted aggregate growth at the national level spawns a complex distribution of costs and benefits among regions and communities, a single goal of development at the state level also can bring an inequitable distribution among metropolitan and nonmetropolitan areas or among rural communities. If we seek development without regard to its distribution effects, the programs and processes have almost a single dimension. The "name of the game" is almost entirely industrialization (or an equivalent such as recreational development, tourism, etc.). We will work to add industries where they have the most obvious advantage and where the thrust typically is already in this direction because of endowments such as natural resources, location, existing transportation networks and large public installations already in place. We will neglect all other communities which are in the process of decline. To those who have gains, we will bring more; to those experiencing social and economic costs as the labor force and population is drawn away to growth centers, we will speed the burden.

If the distributional and equity effects of growth were not the core of the rural community development problems, Iowasn would care little where national development takes place. They could say "let it be California and whoever wants to can go there and capture part of it." Yet, for the state as a whole, leaders do care and they make investments to divert part of national development to Iowa. However, we do not have the same concern when it comes to differential gains and sacrifices among areas and communities within the state. The major weight is on getting another industry or plant at an already favored location in the state. With the dominant orientation of development in this direction, it is the equivalent (for the individuals affected) of telling people of "have not" rural communities to "go to California and get part of it if you want to partake in its gains and avoid its costs".

To be certain, industrialization at favored locations is an important dimension of rural community development. But there are other major dimensions which are equally important and revolve around the distribution problem. To view the problem mainly as one of industrialization would result in efforts which bring gains only to favored larger towns and blind us to the indirect and growing costs of state development to purely rural communities. Perhaps only the minority of communities can have industrial or recreational development as its salvation. Those who cannot must anticipate that they will have continuing exodus of people as nearby communities are successful in their attempts.

At earlier times, but to some extent even yet, the same general equity problem prevailed between the nation's farmers and food consumers. Given the advanced state of agricultural development and the low demand elasticities for food, further advances in farm technology brought costs in the form of reduced revenue to farmers but gains in lower real costs of food to consumers. To redress this situation, at least partly, public programs were initiated which transferred payments to farmers from the treasury and restrained the advance of food supplies. Farmers then could still innovate and realize a portion of the gains. Consumers continued to gain from agricultural improvement through a continued decline in real prices for food, a declining portion of consumer outlays required for food and the release of labor and land from farming for a greater output of other goods and services. We wanted gains for consumers, but not at the expense of farmers. Hence, we initiated compensation means which, over time, have come to exceed the total value of the farm assets concerned. This was, however, an incomplete compensation program directed at removing costs of development (i.e. lower incomes) which fell on farmers in order that consumers could benefit. Left out of the main stream of public redress were the small and low-income farmers. Also left out were the rural community merchants and service personnel who are part and parcel of the agricultural complex but whose income and capital values have eroded as modern technology and government programs and investment have favored fewer and larger family farm units.

At this time in state and national economic growth, we want development for rural communities which possesses positive possibilities in resource base, location, transportation and other conditions. But for those who do not, we also have an equal obligation, if we are not to further the inequities which stem automatically from economic development in a state such as Iowa (a) still making the transition from an earlier agricultural technology, (b) lacking natural resources which gave any great historic impetus to industry, tourism and similar sectors, and (c) a population distributed accordingly. To know, understand and to be able to help catalyze economic growth in rural communities favored in endowment for further development is highly complex. But to know how and the extent to effectively compensate or other wise redress the losses of other communities which sacrifice through the process of farm transformation and off-site development is even more complex.

Intercommunity Weights and Objective Functions

These complex problems did not have to be faced in the initial development period of the state. All communities could grow as agriculture was developed, this industry intensified and servicing towns grew up around it accordingly. One town did not sacrifice absolutely as another grew under these initial conditions. Hence, with the gains to each being positive, the sum outcome also was certainly positive. Unfortunately, this guarantee of positive-sum outcomes from economic growth no longer prevails. We have variables or outcomes of growth which clearly have positive multipliers or values attached to them in communities with sustained and rapid growth. While some variables within these same communities may be associated with negative values or weights (e.g. environmental variables), the negative weights more nearly reside in other communities which are disassembled by the total growth process. And the variables involved include a much larger set than value added, jobs created, new business starts, etc. They include the cost and quality of public and social services and the erosion generally of institutions in communities without developmental opportunities. To be able to approach an optimal strategy of rural community development in a state such as Iowa, we would like an intercommunity objective function or set of social indicators in which the variables with negative and positive weights are specified and measured for communities both with and without positive developmental opportunities. The magnitude of the weights, and especially differentiation between those which are positive and those which are negative, would indicate the range, extent and types of developmental programs which are competitive and complementary amoung different communities (and among different economic and social groups within them). Even if they were specified and ordered only subjectively, the exercise would be useful in identifying the negative and positive weights which attach, across communities, to the interrelated vectors of development among communities. It would be enlightening and more useful than our historic approach, as a public, wherein we simply suppose that the weights are positive in communities with developmental possibilities and are only zero (nonnegative) in communities lacking these opportunities, even though two are interdependent in the sense that declining variables in the latter are associated with increasing variables in the former.

In any case, the challenge in rural community development is a broad and complex one. Its success involves much more than adding to a state's gross product without regard to those individual communities which are forced to decline as part of the overall process. As mentioned earlier, rural community development extends beyond the promotion of industrialization or its equivalent in those nonmetropolitan communities blessed with favorable opportunities, although this is an extremely important subset of overall goals. To lessen or minimize conflicts in goals among different communities and various strata of the population within them, we need simultaneously to develop programs which help ease or erase existing inequities and muffle the development of new ones. In this context we must focus an appropriate amount of attention on those communities now experiencing a disproportionate incidence of low income, underemployment, declining institutions and deteriorating public and private services and which will continue to do so even (or especially) as other locations are successful in adding industry, employment and population.

Major Directions for Rural Community Development

While inequities do prevail among communities in the distribution of the gains and costs of ongoing and unrestrained trends in national and state economic development, programs and policies are possible which lessen or minimize these conflicts. (i.e. the inequities which otherwise arise as population and economic activity is redistributed spatially). Also it is possible that inequities which arise in the short run can be erased in the long run if programs are developed appropriately. Even without the help of research, education and governmental action programs, typical rural communities will adjust to the ongoing structural change of agriculture and the market-oriented spatial redistribution of economic activity and population. This will occur as the decline in numbers of farms and rural businesses continues, youth migrate elsewhere in search of employment, the population is further thinned through deaths in a local population now skewed toward older persons and overcapacity and high costs of public facilities results. But without aid the process will be painful and the outlook will remain pessimistic. To help erase inequities which prevail or are developing, to provide optimistic expectations and to help span the difficulties in getting from the present structure of rural communities to that consistent with the future, a complex set of aids and programs will be necessary.

If we accept the challenge in rural area development as being that bringing gains to favored communities and erasing or preventing inequities in the distribution of gains and costs of economic growth and in providing positive economic and social opportunities for all major population strata in rural communities, then major thrusts are relevant for these different groups:

1. Communities which possess the endowment in resources, growth momentum already underway, location, transportation, local leadership and large public facilities for initiation or intensification of industrial development. In some cases, communities possessing these characteristics are readily identified and the urgent task is to unravel the process by which these activities can be intensified or side effects on the environment can be eliminated or minimized. More complex is the identification of communities which lack current momentum in these directions, wish to develop it and have the potential endowment for doing so. The task involves both (a) analysis of the process which can ignite and accelerate social action and thus development where communities do have the appropriate endowment, and (b) identifying the restraints and releasing the catalysts which specify the directions development best can be turned, or which preclude the possibilities of successful industrial, recreational or similar sectors for communities lacking in appropriate endowments. To accomplish the latter may be as important as the former in the sense of preventing costly mistakes in investments which soon must be written off as the market quantifies the lack of opportunity, and in the loss of time by persons initially employed but who later must migrate elsewhere. There are, of course, numerous auxiliary problems even for communities with favorable and unexploited endowments. Examples are questions of whether, and the extent

to which, industrialization provides employment opportunities for persons within the community; or whether they will go mainly to the school teachers, mechanics and other persons of higher skills who will migrate from other communities. Also involved is community and land use planning for efficient public facilities, recreational opportunities and other restraints which protect or enhance the environment.

2. Persons and families in any community who lack economic opportunity and can or must migrate to employment wherever it prevails. In overall state developmental plans, of course, the hope would be that developing communities might fully absorb surplus labor supplies from communities without these opportunities and that inequities between "have" and "have not" communities might be prevented thus. To the extent that this "matching" is favorable or feasible, it should be promoted through some state investment. Prospect for such "meshings" in Iowa is not in sight for some time, however, because of insufficient momentum in rural community development and state economic growth, the rate at which structural change is occurring, the declining labor demand in typical rural communities and the locational preferences of labor force entrants in the state relative to opportunities in metropolitan areas and other states. Continued migration is in view because of these reasons and will be encouraged through efforts and programs directed toward lessening inequities of low income, underemployment and unfavorable living conditions of rural communities. Conflicts in goals of rural development best can be avoided if appropriate efforts and investments are made in training and aiding the relocation of these people from communities without developmental opportunities--simultaneously with aid to communities favored with developmental possibilities. In welfare terms, these families are no less important than those (a) of the farms surrounding them who have been supplied with public programs and appropriations to lessen inequities otherwise stemming from rapid technological advance, (b) urban centers for which special public programs and investment have been initiated to help erase problems created by population concentrations and in-migration of unskilled low-income persons from rural areas, and (c) rural communities with positive and pleasant prospects of further economic development and income gain. As much or more than any other major group in American society, this has been a neglected population strata, "the people left behind," over recent decades. It is their plight, plus decay of the structure of communities surrounding farmers, which is finally bringing the problems of economic and social conditions of rural areas to the fore. Public concern and potential action never would have been generated on the scale necessary if the focus had remained that of increased gains to communities with momentum and possibilities of development already in sight.

3. Communities which must remain geared to the agricultural structure around them and are faced with adaptations in population, social institutions, public health, recreational and consumer services as farms increase in size, decline in number and increasingly substitute capital for labor. These communities contain a large portion of the persons, especially new labor force entrants, who must migrate elsewhere if they are to find favorable

nonfarm economic opportunities. But even more as a "left behind group" are (a) the smaller farmers who gain relatively little from commercial farm programs, (b) middle-aged persons employed in public institutions and private enterprises servicing agriculture and the surrounding community and who will spend the rest of their professional lives thus, and (c) older persons who already have retired or are in the process of doing so. Pessimism surrounds these communities and they are faced with a complex task in adjusting to the future. The state of social and economic decay in many of these communities already has progressed so far that it has brought uncertainty and uneasiness not only to the small town population which sees demands for its services and capital assets being liquidated, but also to larger commercial farmers who have had growing assets and income maintenance under federal farm programs. The decline of the community about it is causing this strata of the farm sector to become concerned. As one farmer puts it: "Yes, this county might eventually be operated by 50-100 large-scale farmers. But even they won't want to live in a community devoid of neighbors, social institutions, everyday human services and high taxes due to the absence of a nonfarm tax base."

Means to Erase Inequities for Declining Communities

Most towns and communities want progress, more jobs and higher incomes. It is for these reasons that towns with industrialization and economic growth well underway seek even more. Expectations are ever upward and to settle for a constant income and outlook, only a relative sacrifice, would be considered inequitable and unreasonable by them. Communities which must remain geared to agriculture, however, are faced with large absolute sacrifices as trends to fewer and larger farms cause economic opportunity and capital values to decline further in the nonfarm sector of rural areas. A greater proportion of efforts in rural development must be focused on these problems. We need to identify alternatives for lessening or eliminating the inequitable distribution of the gains and costs of economic growth as it is now occurring. Much more than for communities with development opportunities, solutions must be through newly initiated and more rapidly implemented public action programs in realms of citizen knowledge, enabling legislation, planning mechanisms, fiscal arrangements and cost-sharing or subsidization of new community structures and facilities.

Herein lies the major means to divert the costs of the spatial redistribution of population and economic activity from those communities which must remain geared to their farm sector. If these costs and sacrifices can be lifted from communities without industrialization or similar opportunities, then the conflict in goals or outcomes of economic growth between developing and stationary or declining communities can be greatly lessened and eliminated in some cases. But to create communities which are viable social and economic entities relative to the agriculture which is in prospect may entail some large-scale structural changes. Implied especially are changes in the community to conform with the technological nature and scale economies not only of agriculture and its smaller work force but also of modern retailing, public service and other units which supply commodities and functions within the community. More than for any other type, rural communities in this category must extend their geographic spread if public services, health care, recreation, education and others are to be provided efficiently and at reasonable costs. Federal and state revenue sharing might be geared initially to these structural changes and their costs. It might initially be geared to subsidizing facilities for these services on a scale and community size consistent with modern technology of delivery. We talk about "new cities" to solve the problems of large urban centers. Why not new rural communities to solve directly the problems of rural people? We pose the potential of public subsidy and investment to initiate the new cities. Why not public subsidy and investment to shape new rural communities from old ones? New rural structures are going to take place even without the help of the public. The process will be forced on rural communities with further growth in farm and business sizes. But the process will be long, drawn-out, miserable and costly for the individuals and families who bear the direct incident. After more decades of population decline, continuous and strangling capital losses in the business facilities of small towns (or even county seats), populations skewed even more to old people and a further decline in health, recreational and general social services, a new pattern will evolve. Eventually, as they approach a threshold in viability in their nonfarm sector, rural counties may even ask for consolidation. These costs can be alleviated and truncated in time if revenue sharing is used to provide positive inducement to change in community size and structure. This is minimum compensation society should offer rural communities to cover (a) the costs falling on them from spatial redistributions of population and economic activity, and (b) the effective through-the-market transfers of income and capital values as some communities and population centers gain in economic activity and employment and income as others simultaneously decline.

We can pose a fairly long list of opportunities for which extended federal and state revenue sharing (or its equivalent in cost sharing and subsidy of investments) might be used in the initial restructuring of rural communities and in lessening the private and community costs involved in doing so. Involved are subsidization and modernization of facilities for delivery of health, recreational, and educational services. If planning were conducted (and it should be) to the extent of defining the efficient geographic size and structure of this category of rural community (i.e. one geared to the agriculture around it), the town selected for its service center (and where the above facilities would be promoted through cost-sharing or subsidy) would be a special candidate for revenue-sharing or special long-run loans for constructing sewers, water systems and housing. The center selected for this promotion could be given relatively larger allocations or reduced costs of public funds. Other towns and villages in the community would benefit less to encourage relocations of facilities.

Even these shifts to provide long-run social and economic viability would involve a redistribution of economic opportunity and capital values among locations within the community. To prevent inequities, forms of compensation might be directed to those settlements whose economic future is damaged. Their economic decline over recent decades has been closely and directly linked to the structural changes and income problems of agriculture. We have invested heavily in public programs to compensate agriculture. The families and businesses in small rural towns, for the same reasons as farmers, have an equal claim for compensation to redress inequities stemming from modern technology and shifts in the location of economic activity. A minimum compensation might be that to cover the capital loss of businesses in towns predicted not to have a positive future in communities designated for restructure.

But we should not stop with the restructuring of human settlements and towns. Obviously, this process, plus demographic projections, implies a further consolidation of schools and local governmental units if the quality and costs of their services are to be kept at reasonable levels. Other possibilities also prevail in the environment of farms. As is well known,the structure of our country road system, as well as county governments, is oriented to a farm size and technology and transportation mode of many decades back. With the average size of commercial farms moving rapidly upward, do we need soon to shift to an improved and publicly financed road only every two or four miles? While restructuring of rural communities poses new investments in the short run, it also presents the possibilities of cost reductions for facilities such as roads, power lines and public service entities. Of course, no one wants to be a victim of closing down a half or three-fourths of our country roads. For farm families not on the retained roads, costs of inconvenience and lower property values would arise. But again, these costs are a basis for compensation in order that an inequitable distribution of gains and sacrifices does not arise. Compensation forms might include payments for movement of farmsteads and a differential schedule of rural property taxes with reduced rates for those farms in locations where the public no longer pays road maintenance costs. This differential could be removed in the long run as future generations of property owners capitalize the effects into land values.

Means To Redress Costs

The public has a long and varied list of means to redress costs stemming from the redistributions involved in improving community structures and in the shifts of population and economic activity among communities. Flexibilities even exist in the funds currently used for farm programs. Studies show that farm price and income levels of recent times could be attained with alternative methods of supply control and reduced direct payments to farmers.1/ The savings then could be diverted to help solve the problems and cover the costs which impinge on nonfarm rural

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1/ Madsen, Howard C. and Heady, Earl O. Bargaining Power Programs: Estimated Effects on Production, Net Farm Incomes and Food Costs for Specified Price Levels. Center for Agricultural and Rural Development. Iowa State University. Ames, Iowa. CARD Report 39. September 1971. Other alternatives such as marketing quotas or farmer bargaining programs could be used to attain price and income goals while some public funds are diverted to cover the costs falling on other persons of rural communities or in restructuring communities to future economic, social and welfare needs.

residents as a consequence of the tendency to larger and fewer units and the substitution of capital equipment for labor on farms. But an even larger public investment may be implied if accumulated inequities in income, employment and human development of rural communities is to be overcome.

Given public funds even could be used differently to slow the pace and reduce the immediate costs of rural community decline. For example, studies show that current types of farm programs hurry the enlargement and reduction in numbers of farms.[2/] They do so since small-scale operators can best gain something from them if they sell their land to larger neighbors and because profit margins created under current programs invited expansion by large-scale family units employing modern technology. If you gain from current public programs, you can gain even more if you enlarge. Reformulations of the benefits from public programs could remove this impetus to large units, a reduced farm labor force and decline of rural communities. Benefits from public payments and price supports would be tied to the specific farm and the specific family. They would not be realized by the same farm operated by another family, or by the same family on another farm. If A purchased the farm of B, his benefits would be restricted only to the original A unit. Expansion of farm size would not be prevented, but it would not be encouraged as under farm programs. The farm in its original size then would have greater value to the initial family than to subsequent or larger owners. Any sacrifice in efficiency from such constructions to slow the rate of decline in rural communities to acceptable levels are minor and unimportant in a nation which uses less than 5 percent of its resources to produce its farm-food product and exports nearly a quarter of this.

We are not as imaginative and aggressive as we were at earlier times in planning and implementing rural community structures and development of desired forms and purposes. For example, in the settling of the Midwest, relative to the state of knowledge and development in the recent past, public plans and actions were revolutionary. To partition the landscape on the basis of the rectangular survey and to withhold a ribbon of land each mile for public purposes was an abrupt departure from action of any society in previous centuries. Then, active means were used to develop the country through land grants for railroads and schools. While these were subsidies in kind (or indirect cost-sharing methods), they were little different from the monetary means available to today's society. The direct action resulting as society studied the situation, then decreed townships and counties of particular dimensions to be the basic structure of communities was no less revolutionary than would be specification of a modern day structure to conform with present and prospective markets and technology. For the time and technology, the structures specified were quite good. Knowledge of natural resources, let alone market relationships, were absent (soils were not even mapped). Now, with advanced knowledge of soil types and

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[2/] Cf. Ray, Daryll. An Econometric Simulation Model of United States Agriculture with Commodity Submodels. Unpublished Ph.D. thesis. Iowa State University. Ames, 1971; Tweeten, L.G. and Tyner, F.H. Simulation as a Method of Appraising Farm Programs. American Journal of Agricultural Economics 50: 66-81.

productivity, farm cost functions, market demand and similar relationships, we could do much better.

While reorganizations of communities have been suggested, they have typically met public resistance. Why? The mechanical plans, structures or models relating communities to new geographic and market dimensions are not the items of immediate importance. The outstanding and important item has been the failure of these plans to recognize sufficiently the distribution of the costs and gains involved in community, administrative and market area reorganization. Progress will continue slow and small until we use means such as those mentioned above to redress losses falling thus on particular strata of the community to be reorganized. Those who would bear the sudden costs of reorganizations typically are those who have been bearing the costs of community change on a gradual basis over the last two decades. We can hardly blame them for saying "no" to plans which only dump on them a sudden and greater burden of costs for benefit of persons and communities in other locations.

What is more important and complex is not the mechanical plan or model of a restructured community or functional economic area, but a strategy of compensation that lifts the costs from the older, underemployed and other disadvantaged strata of rural communities so that they also have positive opportunities. We are unlikely to get much redistricting, consolidation of government units and restructuring of rural communities until this minimum compensation is supplied. Here is a major alternative for federal revenue sharing. It should similarly be incorporated in the schedule of state programs.

Income Goals

Recent intense concern over rural community arises because of relatively low incomes and unfavorable living environments in rural areas. While other major sectors have had continuous growth in income and employment opportunities, the majority of rural communities has continued to decline in these respects. Even the large-scale outmigration over the last two decades has not restored a balance between population and rural area economic opportunity. Further, the declining population of rural communities has been accompanied by a decline in the supply and quality of health, recreational and similar services. Rural areas have always been handicapped, relative to other major sectors, in quality of education, housing and consumer services such as water and sewer systems.

The economic decline of most rural communities parallels the increase in size and the decrease in numbers of farms and the continued substitution of capital equipment for labor in agriculture. Larger and fewer family farms have resulted in higher per farm income for those which remain. One goal of community development also could be higher or maximum per family income attained through the method being used in farming; reduction in the number and increase in size of highly capitalized family units. The majority of typical rural communities geared particularly to agriculture will have to go further down the route of increased family income and labor returns through fewer private and public concerns operating on a larger scale. Some persons propose that an efficient rural community structured to this type of goal in the Midwest may reduce to a major retail and service center upwards of every 50-80 miles. While the spatial spread is yet to be determined for communities with various locations and land resources, this distribution is proposed as a means whereby retail and service establishments can have a large enough volume to realize major cost or scale economies and provide their owners with incomes comparable to other locations and sectors. Like farms, most types of business concerns and public service facilities in rural areas are in a process of adjusting to modern technology and factor prices through an enlarged capital/labor ratio. Grocery and farm machinery retailing now are capital intensive enterprises and must have a large volume and a wide geographic spread to be successful in rural areas. Hence, while this structure may be the main means of increasing average incomes in typical rural communities, the process of shrinking the number of business establishments and public facilities down to the population and employment level posed is a painful process. It implies a complex process of consolidation of public services and governmental units as well as business establishments. Where populations are extremely thin and skewed towards older persons (a continued prospect until populations become balanced against the level of economic opportunity implied), public aid through further tax reform or revenue sharing from both state and federal governments are implied if these communities are not to bear a disproportionate share of the costs of redistributions resulting from the nature and stage of national economic development. So that the time lag is not too great before adequate facilities can be established, public subsidy may be a necessary compensation to these rural communities for critical services such as health and recreation.

Realistic Goals for Different Types of Communities

Realism requires that goals for development and improvement must differ among categories of communities. The main or only hope of some over the long run is an increase in average family incomes through a further consolidation of business enterprises (i.e. farms, firms, etc.) and public administrative units. This means is in conflict with a more populous community and route of development typically promoted. But to lead communities without an appropriate nonfarm economic base to have hope of adding employment through the route of industrialization is misleading. It can only add to prolonged sacrifice and eventual capital losses greater than otherwise as investments and businesses are started up without a basis for success. It is as urgent that programs, guidance and public investment be implemented for these communities, as for those which can successfully add industry, recreation or other activities due to their greater natural, historic and political endowment. Their developmental problems and costs are more severe than for the latter type of community. Their goal necessarily is not one of increasing total population and work force of the community, but in adapting the structure of the community to (a) the changing agricultural sector about them, (b) the need for, nature and costs of delivery of human services, and (c) the scale economies and costs of public services.

As mentioned earlier, the basic problems of rural area development involve lessening the disproportionate incidence of low incomes, underemployment and inadequate human services. To do so is not a task as simple as national leaders and politicians would lead us to believe when they pronounce revenue sharing without a specific mold, community development offices and organizations without specified purposes and other generalities. Yet the resources of land and space are there. Many decades and much less knowledge back, and under much more difficult circumstances, the public of the time decided to develop these resources for the needs of people. They did so and successfully for the times. Certainly we can be as imaginative now.

TRENDS RELATED TO RURAL AREAS

By Eber Eldridge
Professor of Economics
Iowa State University

"It's possible that the rate may level off or even decline, but the absolute decline in farm numbers is almost certain to continue into the foreseeable future."

"The rising tax picture and the quality of service from local government is an increasing concern of the people in rural areas."

"The data...do not show that Iowa is suffering from income declines or poverty increase, but rather from the difficulties associated with changing the rigidities in our institutions and our institutional structures."

WIDE VARIETIES of trends are associated with rural areas. It is imperative that I pick and choose among the long list of possibilities. Therefore, I have taken an author's prerogative to use my own judgment as to which of these trends are important to rural areas and to rural development.

In order to exercise this selectivity, I have chosen a rather broad and imprecise criterion. I will comment briefly on several trends because they are important to rural people living in Iowa. This judgment of importance is based on the number of times that rural community leaders express concerns over the following trends and ask numerous questions related to them. The trends are as follows: trends related to agricultural production, total employment in Iowa, retailing, institutions (churches, schools, and local government), health care, population, and income.

My definition of rural areas is different from the one frequently used. I am including as a rural area any community and its surrounding territory that depends substantially upon agriculture for its economic reason for existence. We have approximately 950 incorporated places in Iowa. Using the definition specified, nearly all of them (except perhaps Cedar Rapids, Davenport, Burlington, Des Moines, Waterloo, and a few others) depend heavily upon agriculture for their economic reason for existence. Therefore, a rural area in Iowa includes nearly all the incorporated places in Iowa.

Agriculture

One of the well-known (and important) trends in agriculture is the fantastic increase in productivity per man hour (Figure 1). In recent decades, the per-man-hour productivity in agriculture has risen more rapidly than any other industry. This has resulted in some increase in total food produced, but much of the productivity increase stems from the use of technological developments in machinery which has permitted one man to farm many more acres with less effort and less time. When this technological development is applied to a relatively fixed land base, there can be only one result--a rapid decrease in the man hours devoted to agricultural production (Figure 2). The huge decrease in man hours has been an important trend affecting rural areas. A decrease in man hours means decreases in employment relating to agriculture, in the number of farm families living in rural areas, and in the demand for services that the small rural community provides.

The previous two figures applied to United States agriculture. Table 1 shows the corresponding results in Iowa. The number of farm decreased--7.5 percent during the last five-year census period--while the value of farm products sold from Iowa farms substantially increased. It should be noted from Table 1 that the decrease in farm numbers is not a random decrease. The decrease is entirely in the small farm category. The farms selling less than $10,000 gross sales (approximately $3,000 net with good management)

TRENDS IN PRODUCTIVITY, BY SECTOR

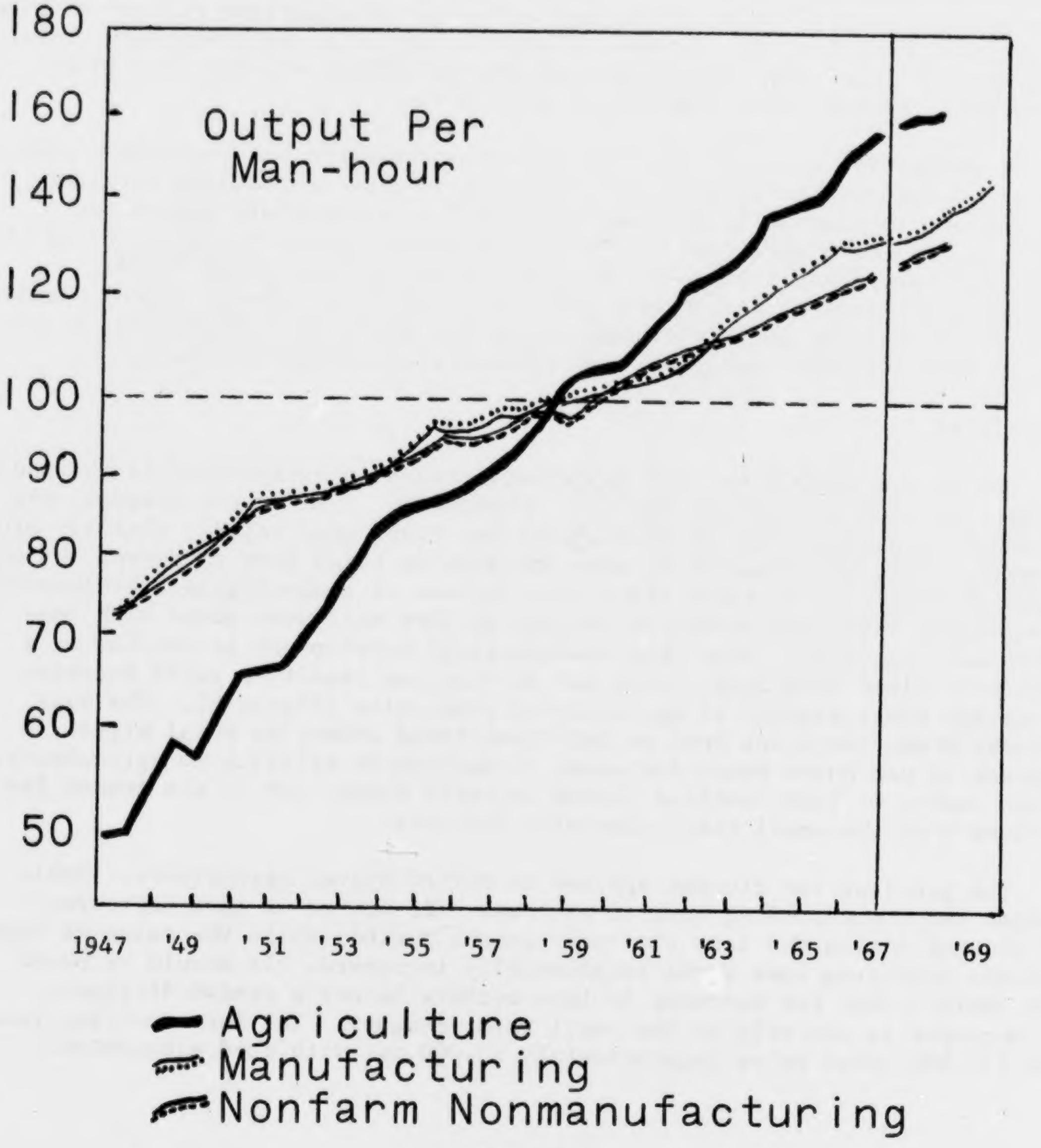


Figure 1

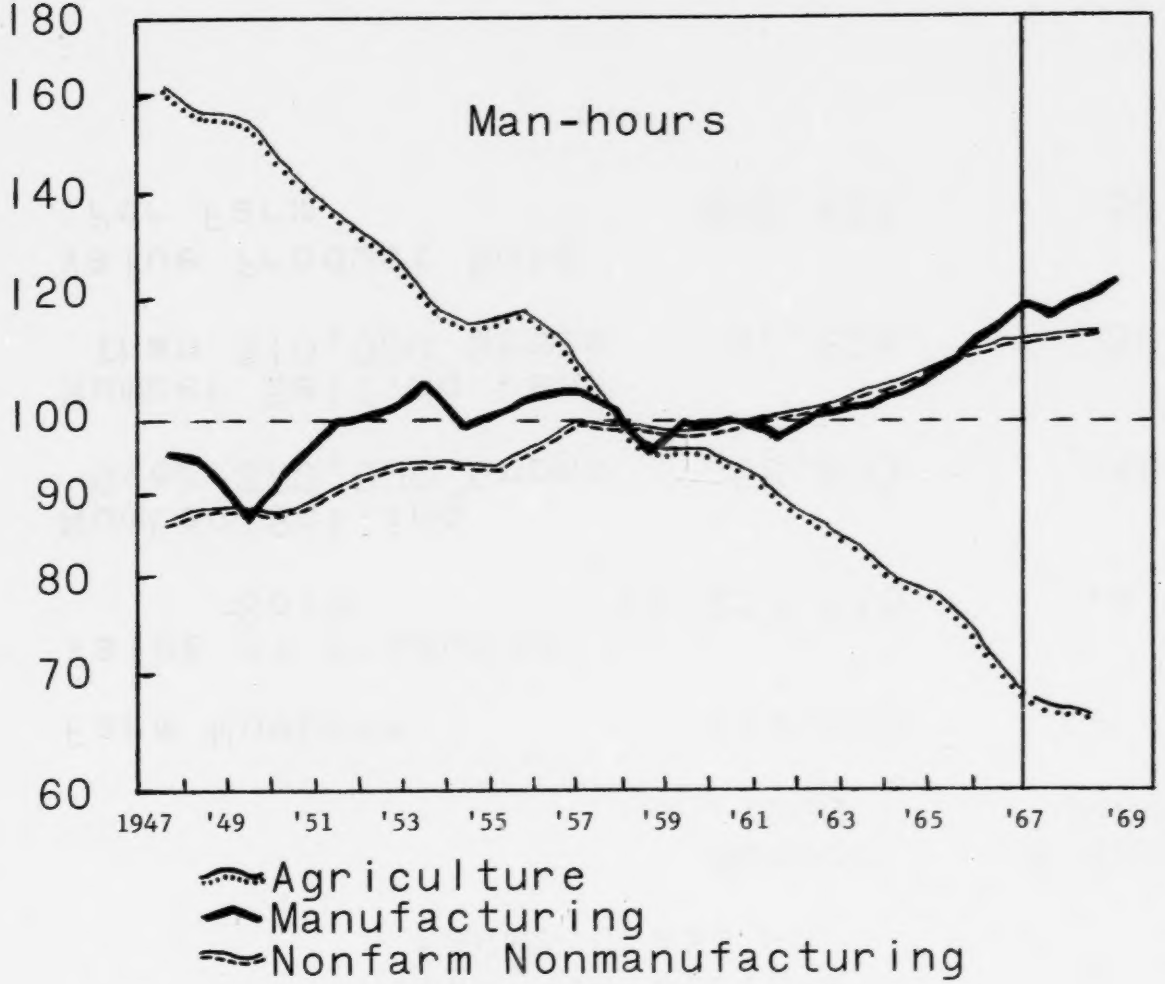

Man-hours
180
160
140
120
100
90
80
70
60
1947
'49
'51
'53
'55
'57
'59
'61
'63
'65
'67
'69
Agriculture
Manufacturing
Nonfarm Nonmanufacturing

Figure 2

IOWA AGRICULTURE
FARMS CLASS I-5

	Number 1969	% Change 1964-69
Farm Numbers	123,495	- 7.5
Value of Products Sold	$3,633,818	+41.4
Number Selling Over $20,000 Gross	58,693	+45.9
Number Selling Less Than $10,000 Gross	32,824	-30.1
Value Product Sold Per Farm	$29,425	+52.8

Table 1

decreased by almost a third in the five-year period while those selling over $20,000 gross sales--the larger farms--increased almost 50 percent in the same period. The value of products sold from each Iowa farm had a substantial increase in that five-year period, thus showing the increase productivity per farm and per farm family.

The trend in decreasing farm numbers has been one of long standing. Its rapid increase since World War II has caused substantial rural concern. Table 2 shows the trend of increasing rate of decrease until the last census period, 1964-1969. The rate decrease from 10.2 percent in the previous five-year period to 7.5 percent in the most recent five-year period, could indicate that the rate of change is leveling off. But one reporting period cannot prove that the percentage rate of the farm number decrease is on a downturn. It does seem that because the base (the number of farms) is substantially smaller than it was 20 years ago, the actual number of farms that will be consolidated in the next five- to ten-year period will be substantially lower than the period from 1959 to 1964.

The question emerges regarding the expected farm number change in the future. Examination of the existing data indicates that under no circumstances can we expect a reversal of the trend related to decreasing farm numbers. It's possible that the rate may level off or even decline, but the absolute decline in farm numbers is almost certain to continue into the foreseeable future. One of the reasons for this is shown in Table 3. The upper figure in each of the state economic areas gives the number of farms in the $10,000 or under gross sales (the vulnerable group) and indicates that each area has a substantial number of farms in that category. The lower figure shows the percent of farms in the $10,000 gross sales or under category. As has been the case, Southern Iowa has substantially higher percentages of the farms in this category than does Northern and Central Iowa. Therefore, the degree of change is expected to continue higher in the Southern areas as it has in the past. It appears obvious that there remains substantial potential farm consolidation. It must be recognized that some of these farms are small because the operator has a full-time non-farm job. This of course would make them less vulnerable to consolidation, but this certainly is not the case with all of the farms indicated in Table 3.

One of the pressures causing farm consolidation is shown in Figure 3. The larger farms have lower operating costs per acre. In 1967, a 640-acre farm had approximately $32-per-acre machine and labor costs, while the 160-acre farm had approximately $64-per-acre machine and labor costs. The competitive disadvantage of the smaller farms makes them vulnerable to consolidation. One of the reasons the consolidation is expected to continue is that the costs on all sizes of farms continue to rise. This is shown also in Figure 3. The cost line for 1969 is substantially higher than the cost line for 1959. As the costs increase with prices remaining relatively constant and the inability of the small farm to expand its output, the small farm remains at a severe competitive disadvantage and will continue to be subject to consolidation.

Change in Numbers of Iowa Farms

Five-Year Periods

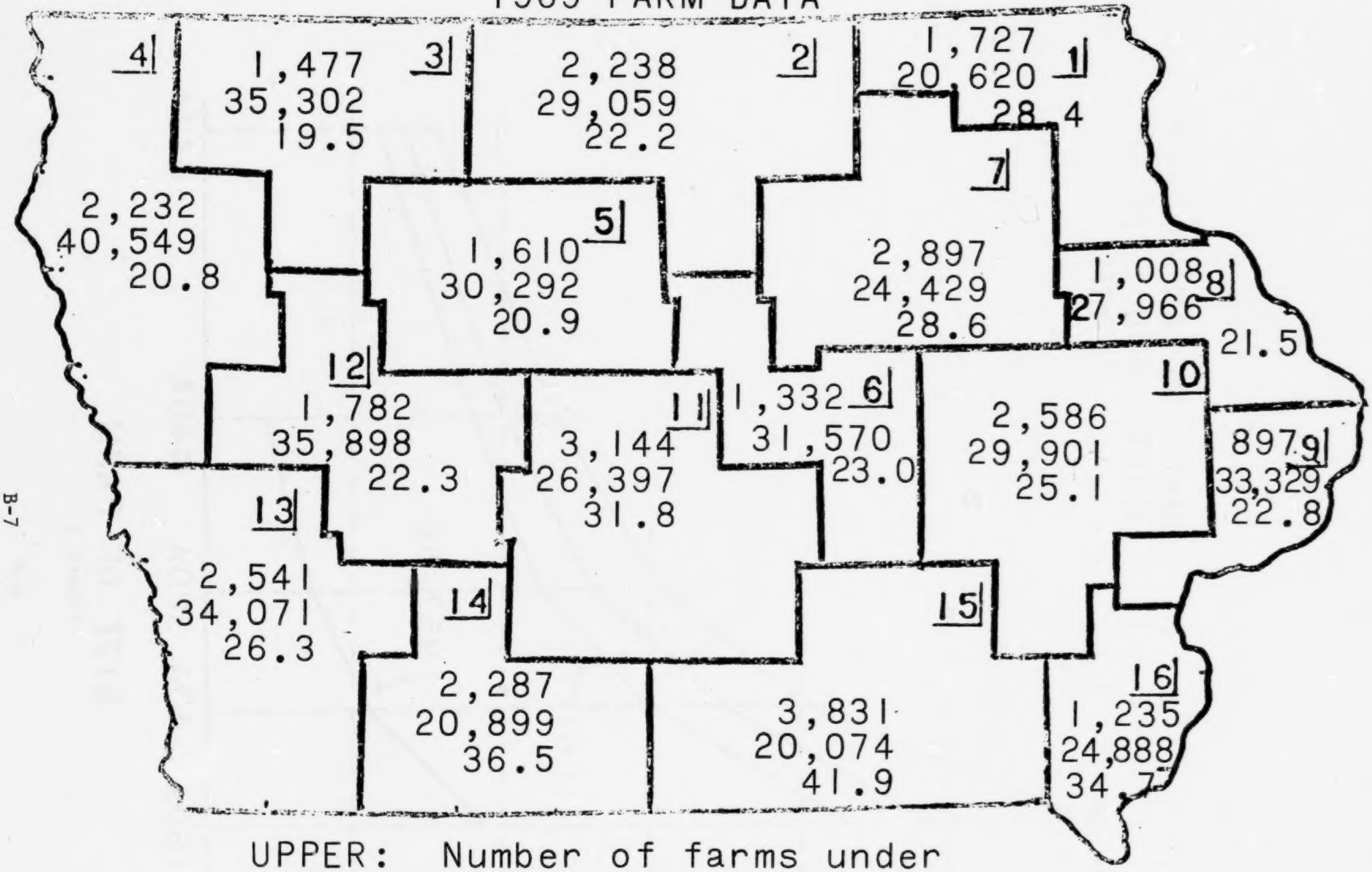
1950 to 1970

	Number Change	Percent Change
1950 - 1954	- 3,846	- 2.4
1954 - 1959	- 7,479	- 4.8
1959 - 1964	-15,233	-10.2
1964 - 1969	- 9,951	- 7.5

Farms Producing Over $2,500 Gross Sales

Table 2

1969 FARM DATA


4
2,232
40,549
20.8
3
1,477
35,302
19.5
2
2,238
29,059
22.2
1
1,727
20,620
28.4
5
1,610
30,292
20.9
7
2,897
24,429
28.6
8
1,008
27,966
21.5
12
1,782
35,898
22.3
11
3,144
26,397
31.8
6
1,332
31,570
23.0
10
2,586
29,901
25.1
9
897
33,329
22.8
13
2,541
34,071
26.3
14
2,287
20,899
36.5
15
3,831
20,074
41.9
16
1,235
24,888
34.7

UPPER: Number of farms under $10,000 gross

MIDDLE: Ave. value product all farms (per farm)

LOWER: % of farms under $10,000 of total farms

Table 3

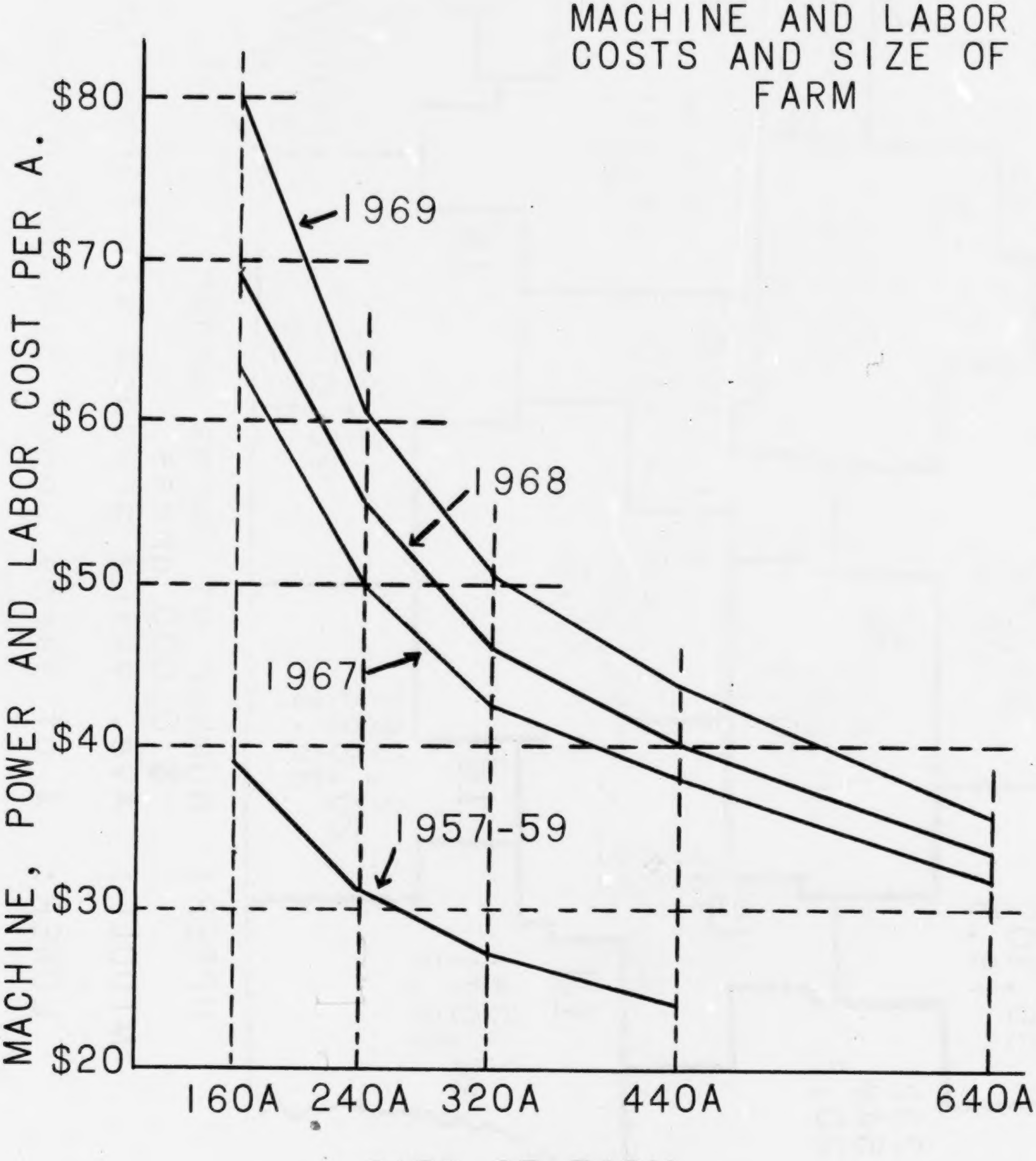

MACHINE AND LABOR COSTS AND SIZE OF FARM
MACHINE, POWER AND LABOR COST PER A.
$80
$70
$60
$50
$40
$30
$20
1969
1968
1967
1957-59
160A
240A
320A
440A
640A
SIZE OF FARM

Figure 3

Some farmers react to these rising costs in a manner as shown in Figure 4--an increasing number of farm operators working off the farm. The upper figure shows the percentage of farm operators working at least 100 days off the farm. Areas 11, 15, 7, and 10 show approximately one in 10 farmers working off the farm to a high degree. Every area, however, shows a substantial increase in the number of farm operators working off the farm in the five-year period from 1964 to 1969. Small farmers are attempting to increase the family income to offset the increasing costs.

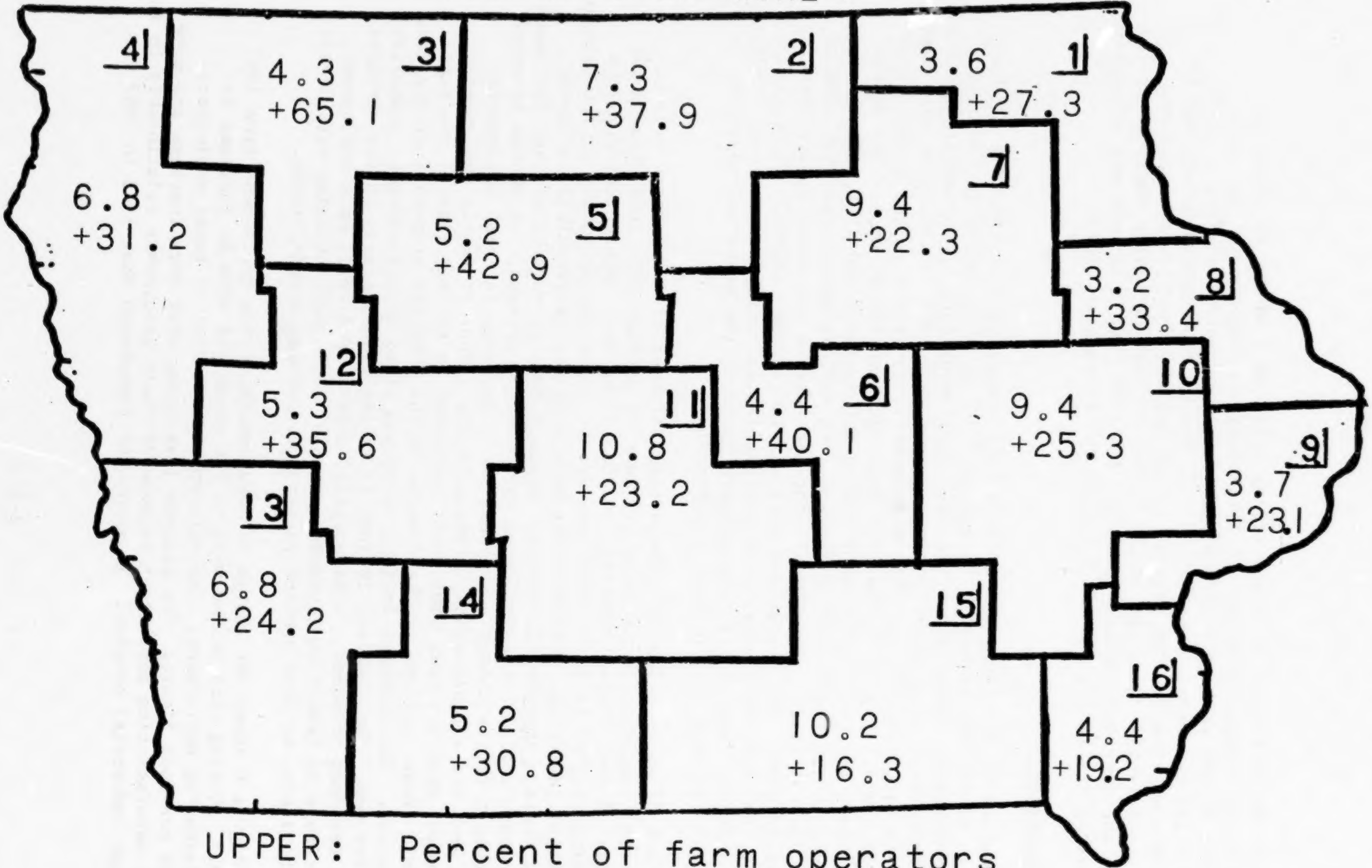
Iowa Employment

Because of the lack of available 1970 census data at the time of this writing, it becomes necessary to use the 1950 to 1960 period in discussing Iowa employment. Even though the 1970 employment data is not available, there are many reasons to suspect that the trends from 1960 to 1970 were very similar to the trends from 1950 to 1960, particularly in regard to the distribution over the state. Figure 5 gives the employment change by area. The middle figure shows the total employment change between 1950 and 1960. It can be seen that the increases are in eastern Iowa and are associated with some of Iowa's larger cities. The significant increase in the Cedar Rapids area was the largest. The Des Moines area was the second largest. The Waterloo, Dubuque, and Davenport areas also had substantial increases in total employment. However, the central and western parts of the state had decreases in the number of jobs and in total employment.

Much of eastern Iowa is within the influence of the Chicago-Detroit industrial complex. There is no big rush of nonfarm jobs into rural areas in spite of much wishful thinking in that direction. Where non-farm jobs are being created in rural areas appears to be on the periphery of the Chicago industrial influence. Eastern Iowa is within the geographical influence of the Chicago industrial complex. Western Iowa is outside of that influence and, consequently, has experienced employment decreases. It should be noted in Figure 5 that although some areas had a decrease in total employment, every area had a substantial increase in the amount of female employment. This means that the male employment decreased in the majority of the state economic areas, and one of the reasons is the changing structure of the Iowa job market. The decrease in jobs is taking place in agriculture, primarily jobs for men. The increase in jobs is taking place largely in the services, which are open to women. Consequently, with a decline in male employment, an increase in female employment, and total employment changing very little for the state, we have a mixed picture of Iowa employment trends.

Figure 6 shows the change in Iowa manufacturing employment from 1963 to 1967. During this period many of the areas did show an increase in manufacturing employment. The pattern follows that of total employment in the previous figure. The eastern Iowa areas show more increase and more total manufacturing employment because of their geographic relationship to the Chicago industrial complex. It should be remembered that 1963 to 1967 was

FARM OPERATORS WORKING OFF FARM
100 DAYS OR MORE


4
6.8
+31.2
3
4.3
+65.1
2
7.3
+37.9
1
3.6
+27.3
7
9.4
+22.3
5
5.2
+42.9
8
3.2
+33.4
12
5.3
+35.6
11
10.8
+23.2
6
4.4
+40.1
10
9.4
+25.3
9
3.7
+23.1
13
6.8
+24.2
14
5.2
+30.8
15
10.2
+16.3
16
4.4
+19.2

UPPER: Percent of farm operators working off, 1969

LOWER: Percent change, 1964-1969

Figure 4

IOWA EMPLOYMENT 1960

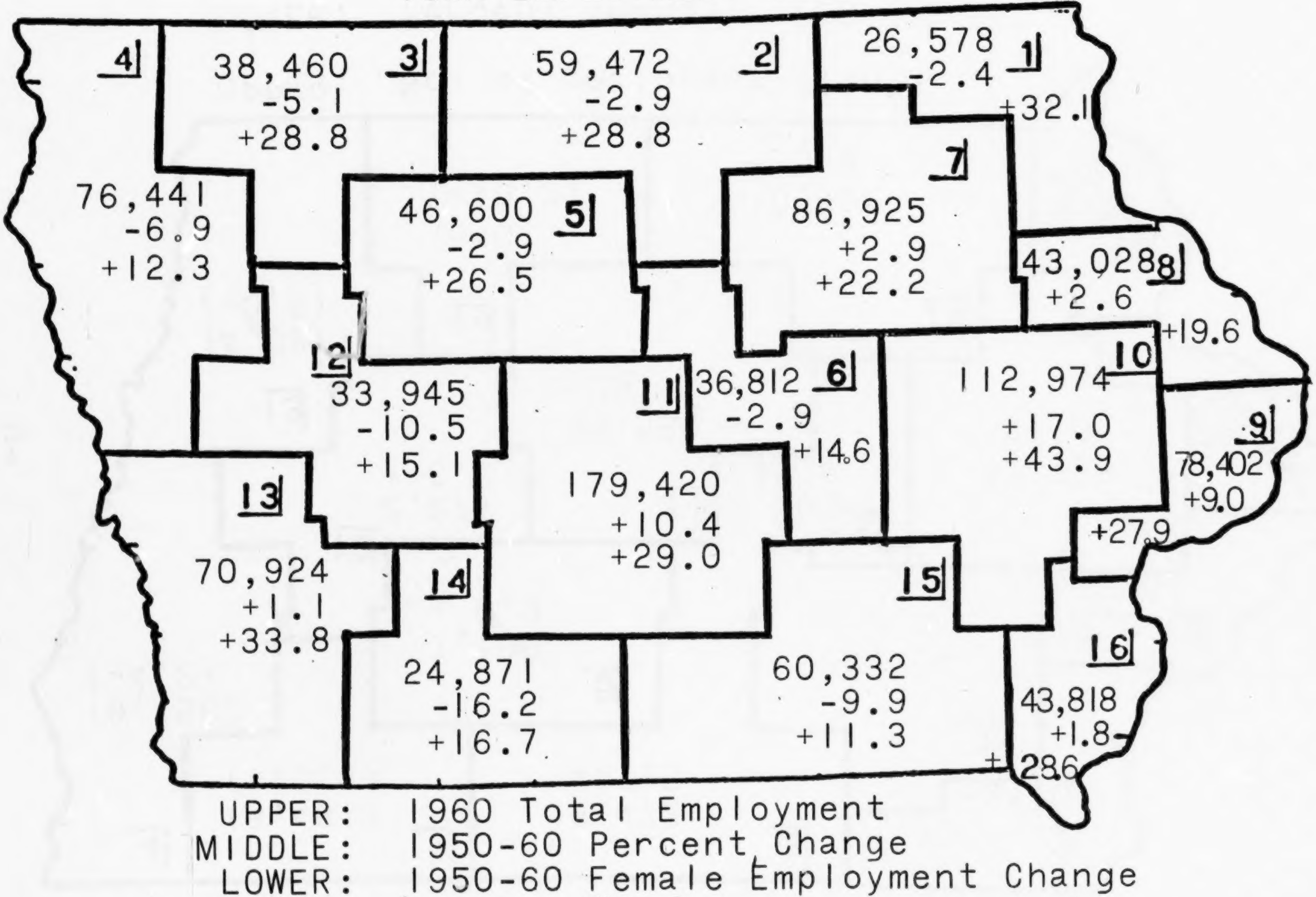

4
76,441
-6.9
+12.3
3
38,460
-5.1
+28.8
2
59,472
-2.9
+28.8
1
26,578
-2.4
+32.1
5
46,600
-2.9
+26.5
7
86,925
+2.9
+22.2
8
43,028
+2.6
+19.6
12
33,945
-10.5
+15.1
11
179,420
+10.4
+29.0
6
36,812
-2.9
+14.6
10
112,974
+17.0
+43.9
9
78,402
+9.0
+27.9
13
70,924
+1.1
+33.8
14
24,871
-16.2
+16.7
15
60,332
-9.9
+11.3
16
43,818
+1.8
+28.6
UPPER: 1960 Total Employment
MIDDLE: 1950-60 Percent Change
LOWER: 1950-60 Female Employment Change

Figure 5

IOWA MANUFACTURING

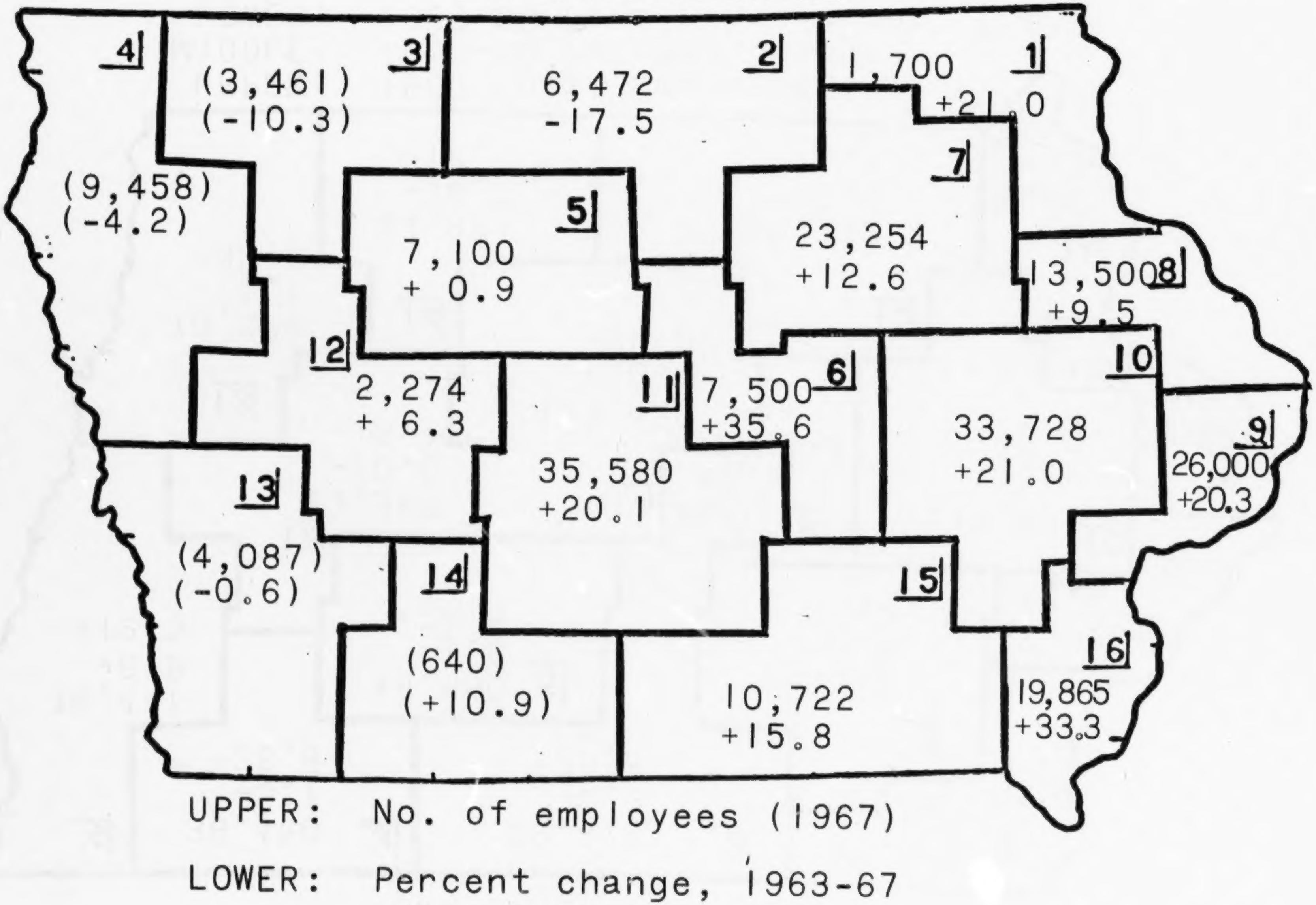

4
(9,458)
(-4.2)
3
(3,461)
(-10.3)
2
6,472
-17.5
1
1,700
+21.0
5
7,100
+ 0.9
7
23,254
+12.6
8
13,500
+9.5
12
2,274
+ 6.3
11
35,580
+20.1
6
7,500
+35.6
10
33,728
+21.0
9
26,000
+20.3
13
(4,087)
(-0.6)
14
(640)
(+10.9)
15
10,722
+15.8
16
19,865
+33.3
UPPER: No. of employees (1967)
LOWER: Percent change, 1963-67

Figure 6

a particularly good period for increase in manufacturing jobs in Iowa. The national economic uncertainties from 1967 to 1972 indicate a lesser increase in manufacturing employment than the previous five-year period. The long-run relationship between eastern Iowa, central Iowa, and western Iowa, however, will remain the same, with the trend for a higher degree of increase in eastern Iowa.

Retailing

The retailing industry shows trends similar to those previously discussed in the farming industry, Figure 7. Each of the 16 areas had a substantial decrease in the number of retail establishments from 1958 to 1967, with the exception of the Cedar Rapids Area. However, every area had an increase in sales-per-establishment, showing the effects of the discontinuance of many of the businesses.

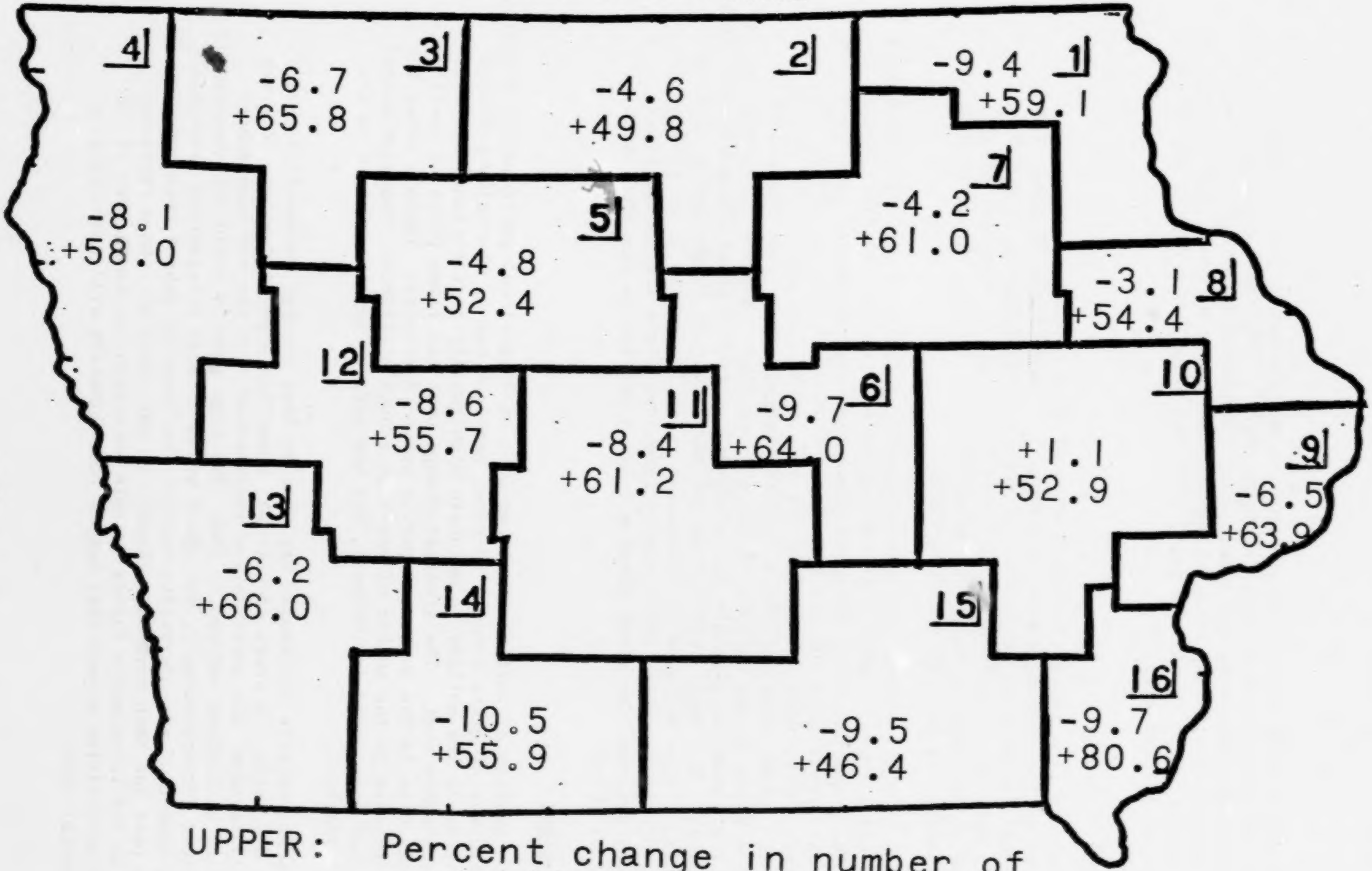
Much of the economic pressure in retailing falls on the small merchants and the small towns. Table 3 gives a picture of the retail distribution in 1970. The towns under one thousand population have a smaller percent of the sales than population, and the reverse is true of the larger towns. This percentage figure does not include the people who live within the trade territory. Other data indicates that the larger communities are gaining in retail sales at the expense of the smaller ones. Modern transportation and modern roads make it possible for customers to travel great distances for their merchandise. The small merchant in the small town no longer has a captive clientele. It seems to be an increasing trend for people to go greater distances, particularly for infrequently purchased items like automobiles, refrigerators, and for items where a large selection is demanded, such as women's clothing.

Institutions

The quality of institutional services in Iowa--local governments, schools, churches--are of great concern to rural people. One of the major problems facing Iowa is its ability to maintain high quality institutional services at a reasonable cost. The greatest change that has taken place in institutions has been in the number of public school districts. Table 4 shows the rapid decrease in the number of non-high school districts. The high school change has been rapid in the past, but has more or less stabilized in the last 10 years.

School experts frequently say that we need further consolidation of school districts. A state educational committee appointed by the Governor recently reviewed the question and recommended that the 450 high school districts be further reduced to 100. The high schools would not necessarily be reduced correspondingly, but there would be some substantial reduction in the number of administrative units. The trend of school consolidation in the past has been obvious. Whether or not there will be a continued trend in the foreseeable future is more uncertain, although most of the school authorities expect that school consolidation will continue at a substantial rate.

IOWA RETAILING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+58.0
3
-6.7
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+61.0
5
-4.8
+52.4
8
-3.1
+54.4
12
-8.6
+55.7
11
-8.4
+61.2
6
-9.7
+64.0
10
+1.1
+52.9
9
-6.5
+63.9
13
-6.2
+66.0
14
-10.5
+55.9
15
-9.5
+46.4
16
-9.7
+80.6

UPPER: Percent change in number of establishments, 1958-67

LOWER: Percent change in sales per establishment, 1958-67

Figure 7

NUMBER OF COMMUNITIES, POPULATION IN COMMUNITIES BY SIZE OF COMMUNITY AND GROSS AND NET RETAIL SALES BY SIZE OF COMMUNITY

Population Class	No. of Comm.	% of Iowa Population	% of Net Sales
50,000 & over	7	24.6	37.2
25,000 - 49,999	9	10.6	14.1
10,000 - 24,999	11	6.1	6.7
5,000 - 9,999	36	9.0	12.1
2,500 - 4,999	48	6.0	7.0
1,500 - 2,499	65	4.4	5.8
1,000 - 1,499	70	3.1	3.7
500 - 999	210	5.4	5.2
Under 500	496	4.1	3.0

Table 3

NUMBER OF PUBLIC SCHOOL DISTRICTS

	Non-high School	% Change	High School	% Change
1957-58	2,578		745	
1962-63	762	-70.5	469	-37.0
1967-68	22	-97.0	455	- 3.0

Table 4

One non-public school institution affected by these economic pressures is the church. Most denominations in Iowa are examining the possibility of combining congregations. A frequent method of doing this is to assign a minister for two or three churches, particularly in rural areas. In some areas the pressures have become so severe as to cause churches to look at inner-denominational consolidations. It appears that the trend toward rural church consolidation will be with us for some time. Reverend Gerald Brown, associate secretary of the Iowa Council of Churches, recently said, "It has become a big problem, especially in rural and small town areas. It is quite obvious in some places there are just too many churches."

One group of institutions, local government, is conspicuous because of a lack of any trend. If there is a trend, it is one of rigidity. The number of local governments has not changed significantly in the last 50 years. This is not to say that no problems exist. The problems of local government are the same as other institutions--the problem of maintaining the quality of service within a reasonable cost. The fragmentation and proliferation of local governments will force attention in this area in the near future. Manv counties have as many as 20 separate and distinct local governments with taxing authority. Iowa ranks 26th in population among the 50 states but third in the number of municipal governments it supports. The rising tax picture and the quality of service from local governments is an increasing concern of the people in rural areas.

Health Care

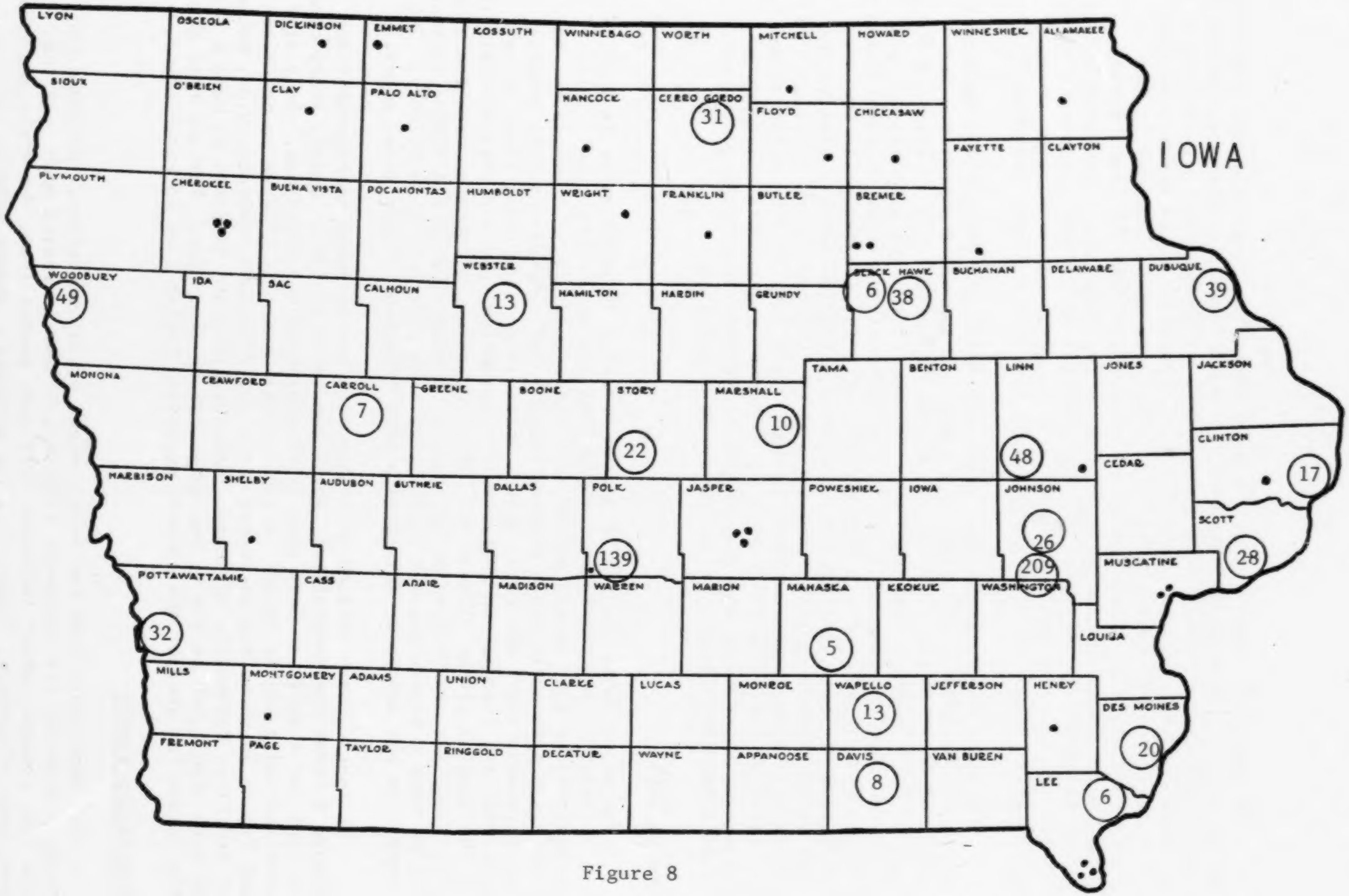
One of the most frequently stated concerns in rural areas is that of the location of the physician. Physicians are leaving the small rural communities as they retire and are not being replaced. "A doctor for our town" is a frequently heard project among rural communities. As general practitioners leave the rural areas, there is an offsetting trend to be observed, and that is the concentration of medical and surgical specialists in the central cities (Figure 8). The specialists associated with the larger city hospitals are increasing in number. Perhaps the people living in these cities have a higher quality health care than ever before in history. The concern is the access to this health care from some of the rural areas.

Another concern related to health care can be shown in Figures 9 and 10. Figure 9 shows the population: physician ratio in 1940. Nearly every county in Iowa had a ratio of less than 1,500 people to one physician. Only five counties had a higher ratio. A substantial change in this ratio has taken place, and Figure 10 shows the estimated ratio in 1975 (John MacQueen, M.D., College of Medicine, University of Iowa). Many counties are expected to have a ratio of more than 2,500 people to one physician at that time. Perhaps this shows the reason for some of the concern regarding health care in rural areas.

Population Trends

For many years Iowa has been a state of out-migration. Although the total population has increased slightly, it has increased much less than the U.S. average, which indicates that many people leave the state searching employment elsewhere, Figure 11. The population change between 1960 and

MEDICAL and SURGICAL SPECIALISTS-'67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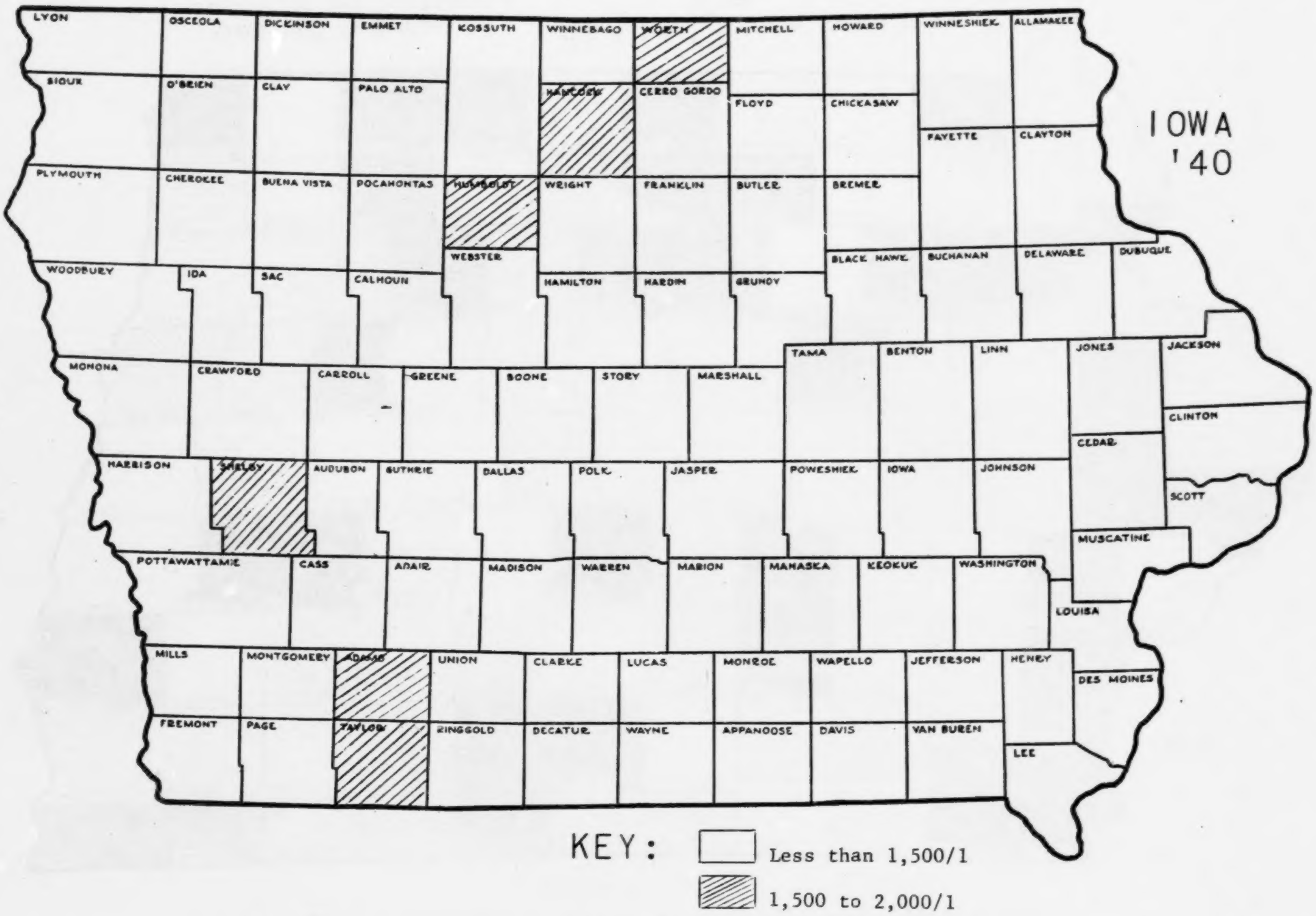
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
O'BRIEN
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
31
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
WOODBURY
49
IDA
SAC
CALHOUN
WEBSTER
13
HAMILTON
HARDIN
GRUNDY
BLACK HAWK
6
38
BUCHANAN
DELAWARE
DUBUQUE
39
MONONA
CRAWFORD
CARROLL
7
GREENE
BOONE
STORY
22
MARSHALL
10
TAMA
BENTON
LINN
48
JONES
JACKSON
CLINTON
17
CEDAR
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
139
JASPER
POWESHIEK
IOWA
JOHNSON
26
209
SCOTT
28
MUSCATINE
POTTAWATTAMIE
32
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
5
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
13
JEFFERSON
HENRY
DES MOINES
20
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
8
VAN BUREN
LEE
6

Figure 8

POPULATION-MEDICAL PHYSICIAN RATIOS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DICKINSON
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WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
O'BRIEN
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
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BUTLER
BREMER
WEBSTER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
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HAMILTON
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JONES
JACKSON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
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CEDAR
HARRISON
SHELBY
AUDUBON
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POWESHIEK
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SCOTT
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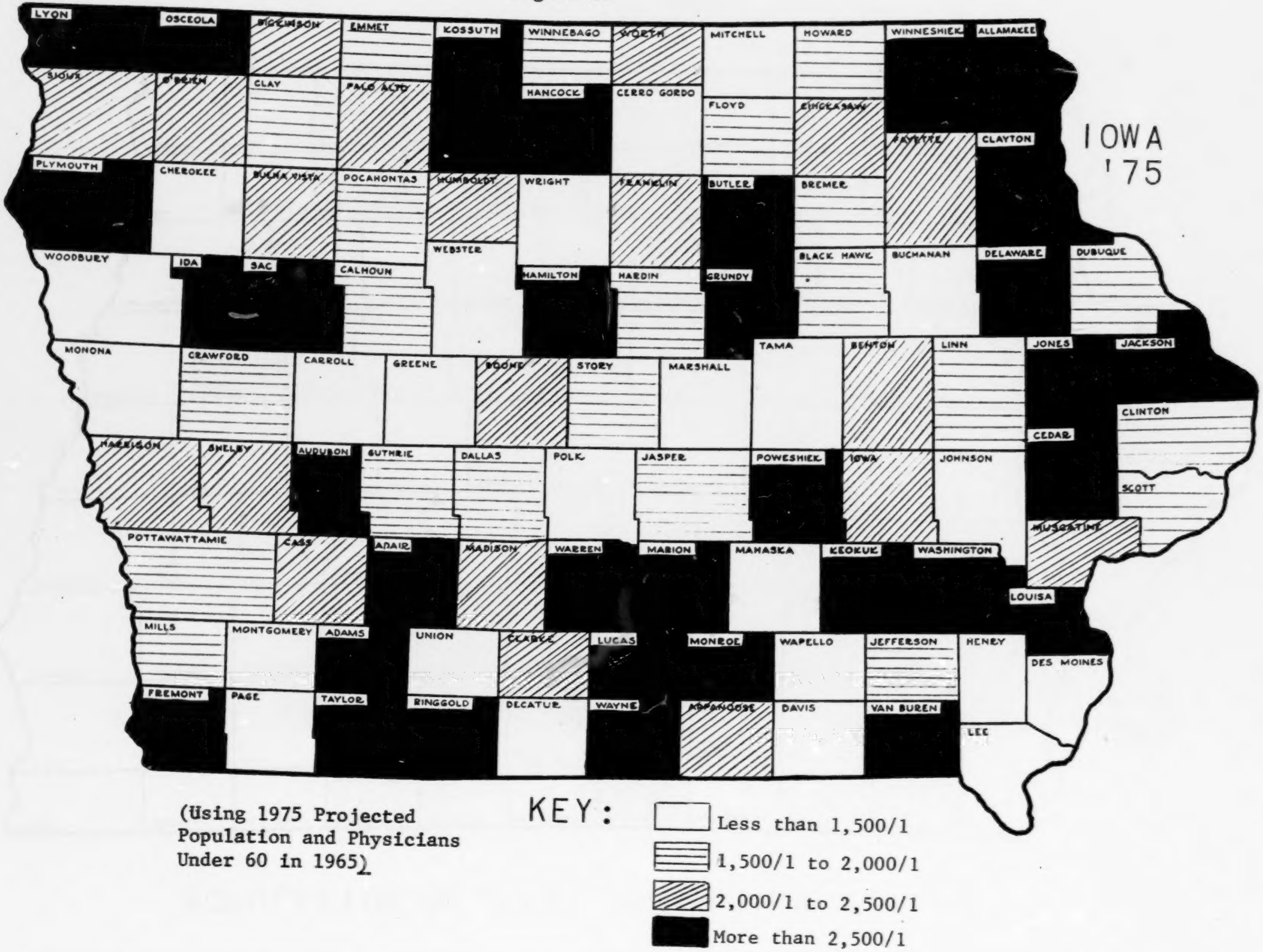
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE
KEY:
Less than 1,500/1
1,500 to 2,000/1

Figure 9

POPULATION-MEDICAL PHYSICIAN RATIOS

Figure 10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KOSSUTH
WINNEBAGO
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MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
O'BRIEN
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
MONONA
CRAWFORD
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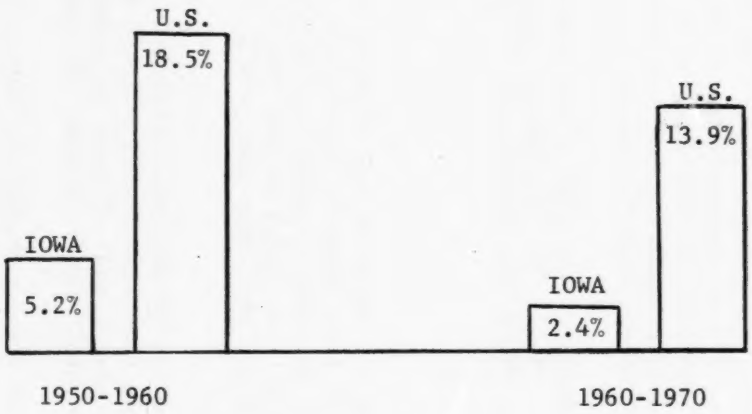
GREENE
BOONE
STORY
MARSHALL
TAMA
BENTON
LINN
JONES
JACKSON
CLINTON
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
CEDAR
SCOTT
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
MUSCATINE
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE
KEY:
Less than 1,500/1
1,500/1 to 2,000/1
2,000/1 to 2,500/1
More than 2,500/1

(Using 1975 Projected
Population and Physicians
Under 60 in 1965)

IOWA POPULATION PERCENTAGE CHANGE



1950	2,621,073
1960	2,757,537
1970	2,824,376

Figure 11

1970 by area is shown in Figure 12. Population change would be expected to follow the patterns exhibited by employment change. It shows that the eastern areas of Cedar Rapids, Dubuque, Waterloo, and Davenport show substantial population increases, but the western areas of the state show population decreases reflecting the decreases in employment. As with the employment trend, the population trend is expected to continue.

Associated with the trends in population are trends in the distribution of the age groups. Figure 13 shows that there is a significant increase in the number in the age groups over 75 and 65. There are decreases in the age groups from 25 to 45 and another very significant decrease in the zero to four preschool age group. One reason for this is the effects of out-migration. Those in the age groups from 25 to 45 are more mobile and have more opportunities in seeking employment in other areas. They are also in the group with children and in the child-bearing age group. Their leaving the state in search of other employment is one of the explanations of the changing age distribution. Figure 14 shows the distribution by area in the population over 65. The top figure shows that every area has had a substantial increase in the percentage of the population in the over-65 group.

Table 5 shows the combined effects of the population change on Iowa's towns. In the smaller town group, under 1,000 population, there were more towns decreasing in population than there were increasing in the last census period.

Income and Taxes

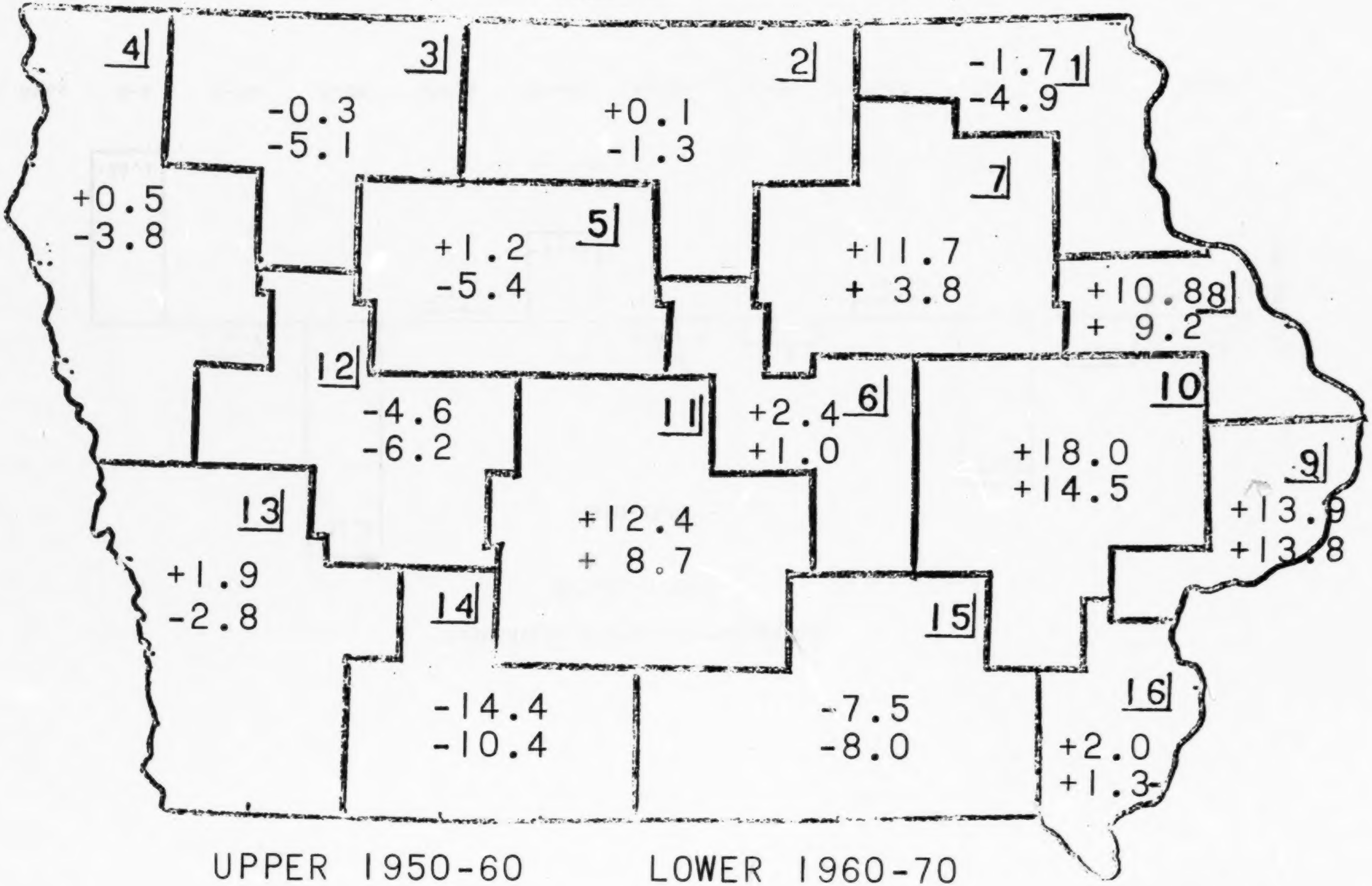
One trend affecting incomes is the changing tax picture in the state of Iowa. Figure 15 shows the change in Iowa property tax in the last 20 years. Some areas more than doubled in the per capita payment of property tax in this period of time, with the greatest increases in the east central part of the state. The increased taxes reflect the increasing costs of operating the public institutions in Iowa.

In spite of the economic pressures on the small farm, the small business, the small town, and the small institution, the income picture for the state of Iowa reflects an optimistic positive trend. Figure 16 shows that every area had a substantial increase in total income between 1960 and 1970.

The increase in productivity of Iowa's resources, both farm and nonfarm, is reflected in the income change. When examined on a per capita basis (Figure 17), substantial gains are indicated in income per household. One possible conclusion is that rural problems in the state of Iowa are causing great concerns, but that the concerns are not necessarily related to income. The performance of Iowa's resources in the past several years has been somewhat better than the national average. Table 6 gives Iowa's per capita income performance compared to the United States. The column, "Iowa as a Percent of the U.S. Average," shows that the per capita income in Iowa has steadily gained faster than the U.S. average. One exception is the period

POPULATION CHANGE BY AREA

Figure 12


4
+0.5
-3.8
3
-0.3
-5.1
2
+0.1
-1.3
1
-1.7
-4.9
5
+1.2
-5.4
7
+11.7
+ 3.8
8
+10.8
+ 9.2
12
-4.6
-6.2
11
+12.4
+ 8.7
6
+2.4
+1.0
10
+18.0
+14.5
9
+13.9
+13.8
13
+1.9
-2.8
14
-14.4
-10.4
15
-7.5
-8.0
16
+2.0
+1.3

UPPER 1950-60 LOWER 1960-70

PERCENTAGE CHANGE IN POPULATION

BY AGE GROUP

1960-1970

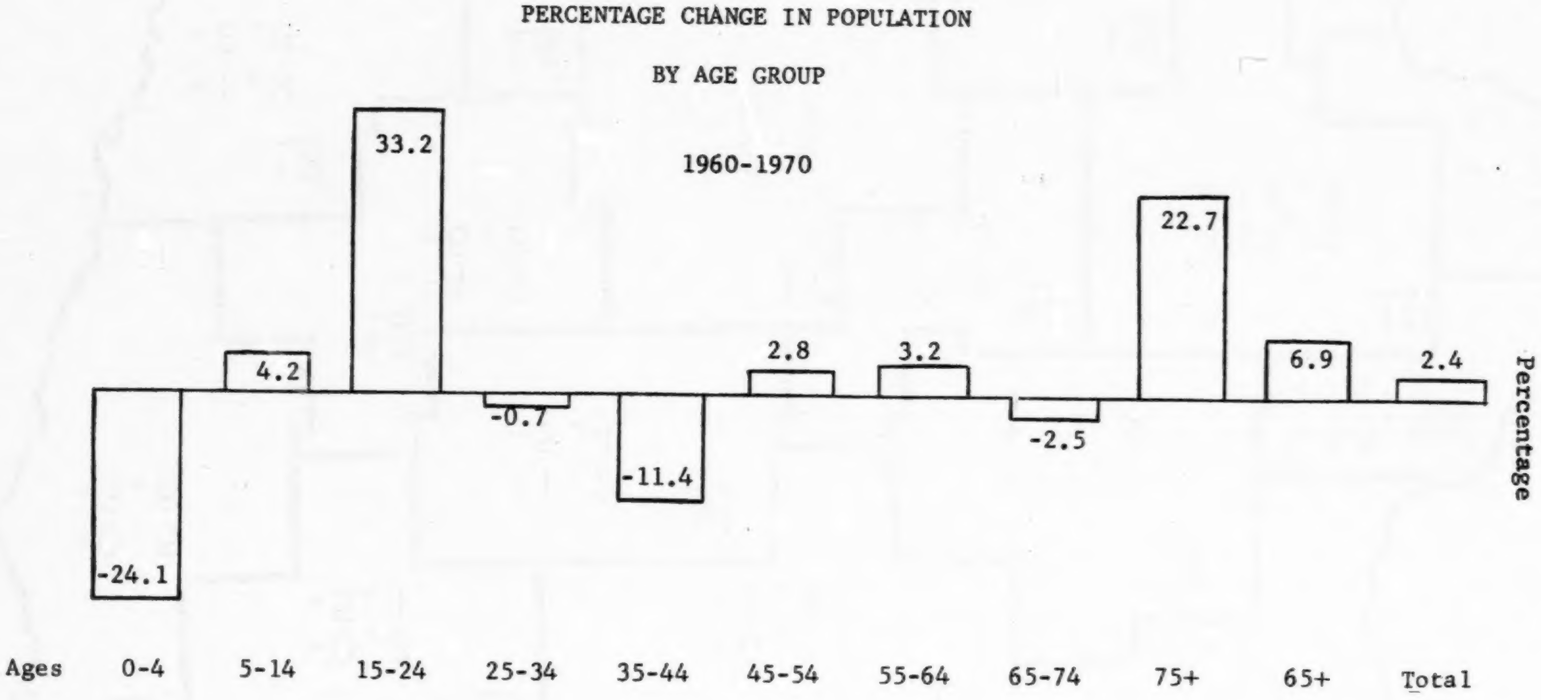
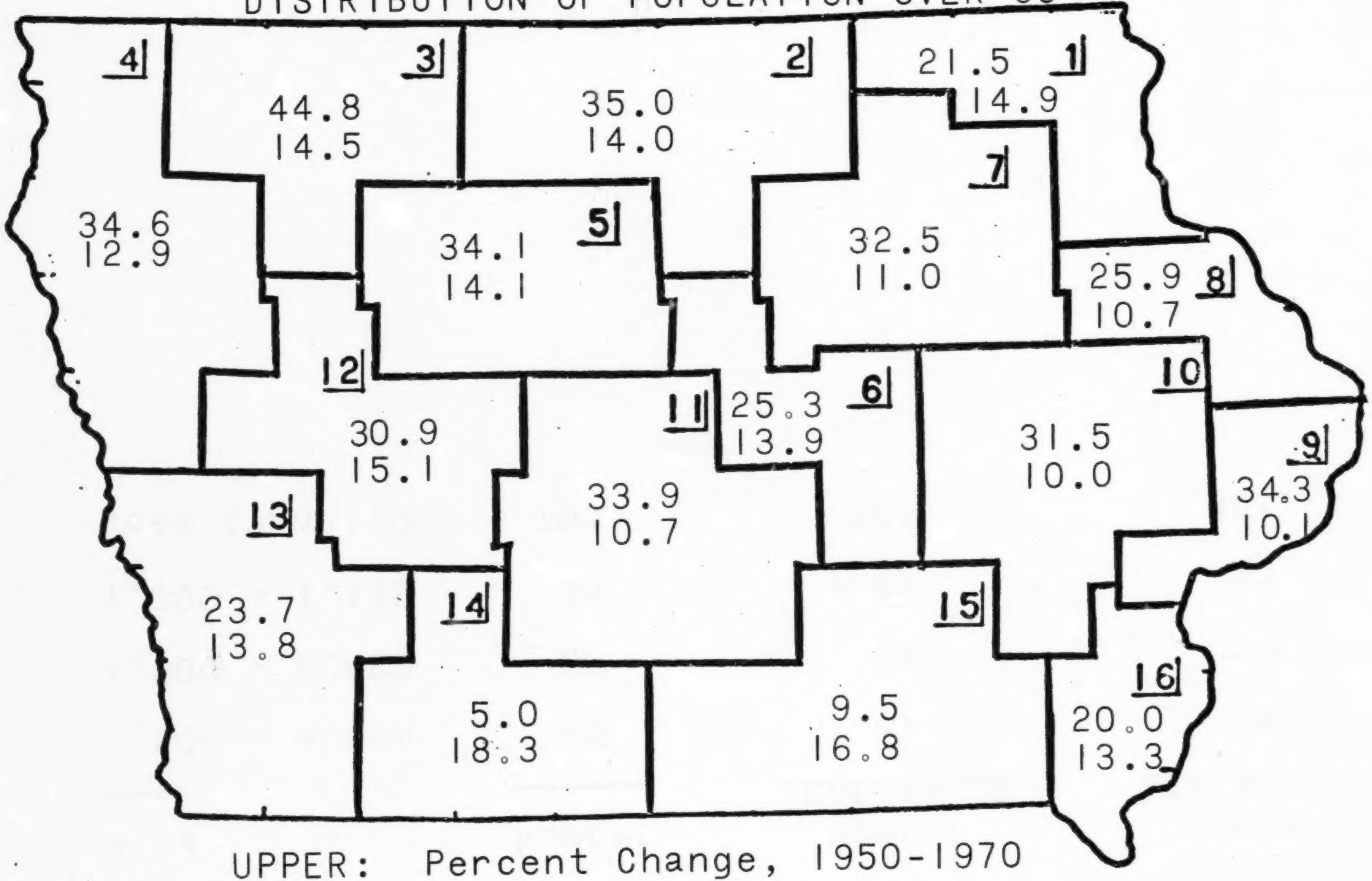


Figure 13

DISTRIBUTION OF POPULATION OVER 65


4
34.6
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3
44.8
14.5
2
35.0
14.0
1
21.5
14.9
5
34.1
14.1
7
32.5
11.0
8
25.9
10.7
12
30.9
15.1
11
33.9
10.7
6
25.3
13.9
10
31.5
10.0
9
34.3
10.1
13
23.7
13.8
14
5.0
18.3
15
9.5
16.8
16
20.0
13.3

UPPER: Percent Change, 1950-1970

LOWER: Percent of Total Population over 65

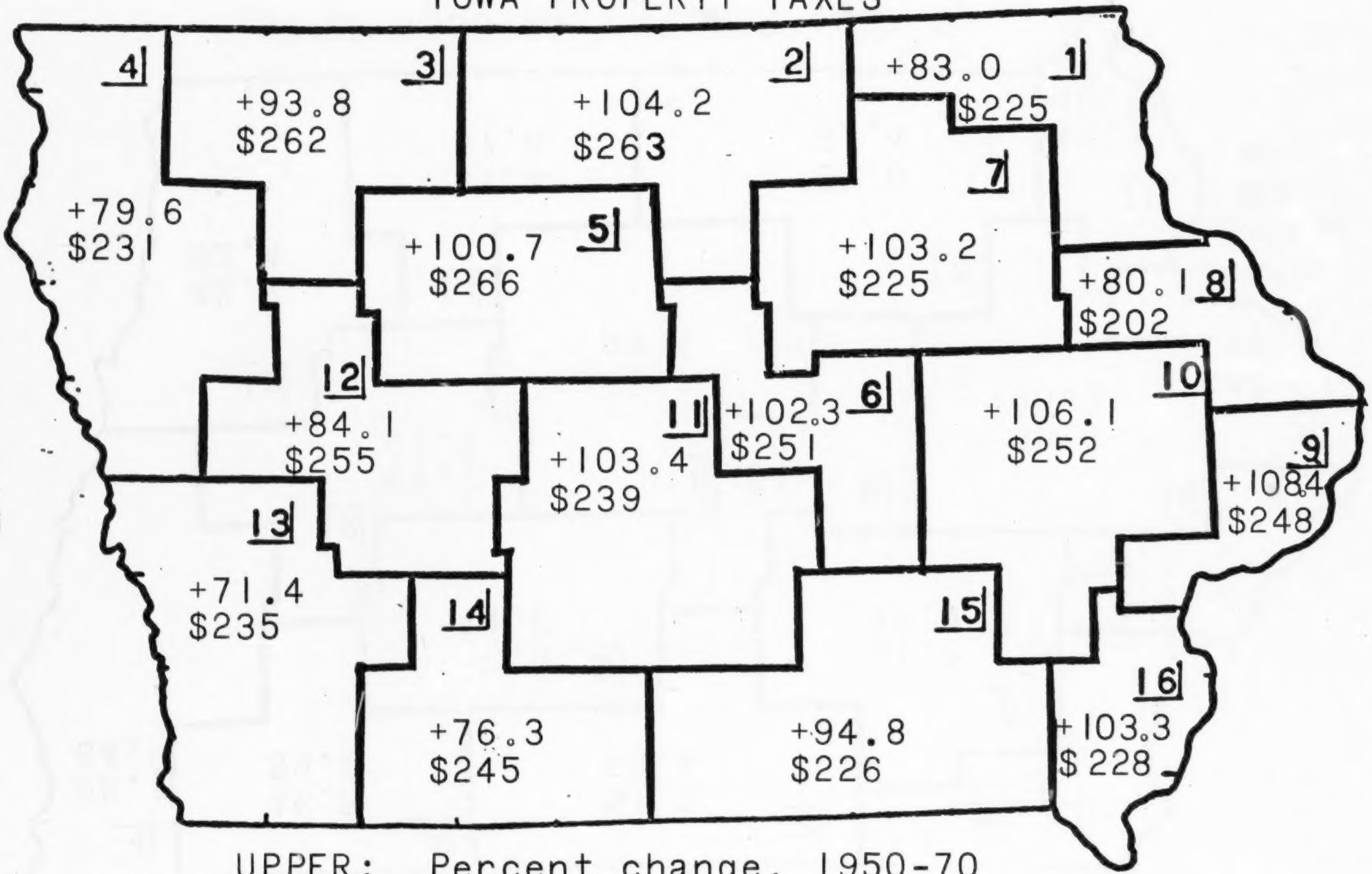
Figure 14

IOWA TOWNS,
1960 - 1970

Size	Number	Number Increasing	Number Decreasing
2,500 - 4,999	45	29	16
1,500 - 2,499	57	38	19
1,000 - 1,499	78	44	33
Less than 1,000	704	323	381

Table 5

IOWA PROPERTY TAXES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$231
3
+93.8
$262
2
+104.2
$263
1
+83.0
$225
7
+103.2
$225
5
+100.7
$266
8
+80.1
$202
12
+84.1
$255
11
+103.4
$239
6
+102.3
$251
10
+106.1
$252
9
+108.4
$248
13
+71.4
$235
14
+76.3
$245
15
+94.8
$226
16
+103.3
$228

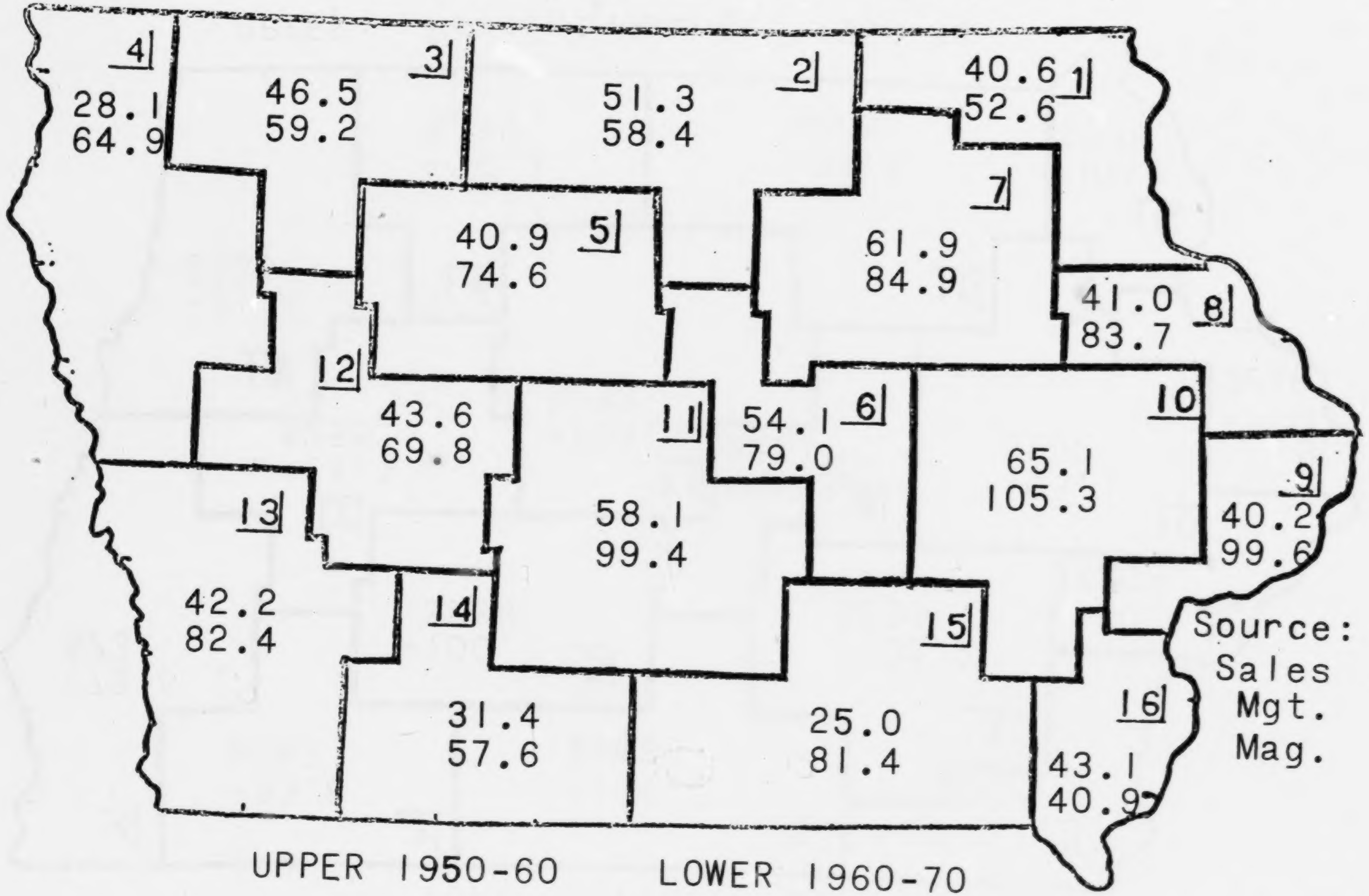
UPPER: Percent change, 1950-70

LOWER: Taxes per capita, 1970

Figure 15

Figure 16

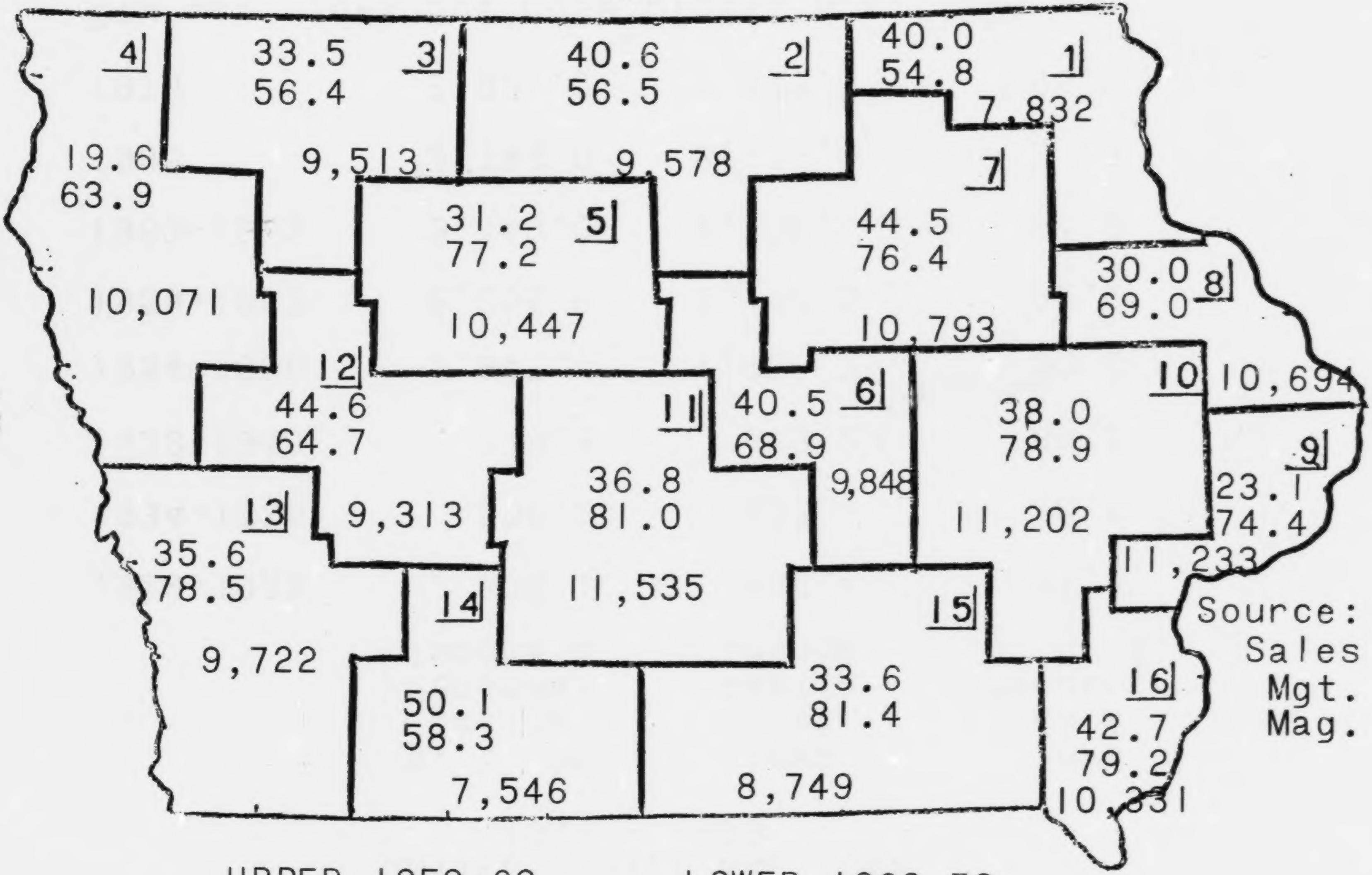
PERCENT CHANGE IN TOTAL INCOME
(EFFECTIVE BUYING POWER)


4
28.1
64.9
3
46.5
59.2
2
51.3
58.4
1
40.6
52.6
5
40.9
74.6
7
61.9
84.9
8
41.0
83.7
12
43.6
69.8
11
58.1
99.4
6
54.1
79.0
10
65.1
105.3
9
40.2
99.6
13
42.2
82.4
14
31.4
57.6
15
25.0
81.4
16
43.1
40.9
UPPER 1950-60
LOWER 1960-70

Source: Sales Mgt. Mag.

PERCENT CHANGE IN INCOME PER HOUSEHOLD
(EFFECTIVE BUYING POWER)

Figure 17


4
19.6
63.9
10,071
3
33.5
56.4
9,513
2
40.6
56.5
9,578
1
40.0
54.8
7,832
5
31.2
77.2
10,447
7
44.5
76.4
10,793
8
30.0
69.0
10,694
12
44.6
64.7
9,313
11
36.8
81.0
11,535
6
40.5
68.9
9,848
10
38.0
78.9
11,202
9
23.1
74.4
11,233
13
35.6
78.5
9,722
14
50.1
58.3
7,546
15
33.6
81.4
8,749
16
42.7
79.2
10,331

Source: Sales Mgt. Mag.

UPPER 1950-60 LOWER 1960-70
AVERAGE 1970 INCOME

PER CAPITA PERSONAL INCOME
UNITED STATES AND IOWA
1929 - 1970

	U. S. Per Capita Personal Income $	Iowa per Capita Income	Iowa As A Percent of U. S.
1929-1933	525.1	405.4	77.2
1934-1938	506.3	407.1	80.4
1939-1943	778.3	673.2	86.5
1954-1958	1,947.4	1,752.7	90.0
1959-1963	2,295.6	2,116.5	92.2
1963-1965	2,449.0	2,302.1	94.0
1965	2,746.0	2,676.0	97.5
1970	3,921.0	3,688.0	94.5

Source: Iowa Business Digest Nov. 1964
1965 & 1970 added later

Table 6

of economic uncertainty in the most recent four or five years. Therefore, the trends discussed in this paper are problems related to the balancing of our institutions and facilities with the changing location of people and jobs. The data on trends do not show that Iowa is suffering from income declines or poverty increase, but rather from the difficulties associated with changing the rigidities in our institutions and our institutional structures.

Conclusion

I have discussed a few trends in relation to rural development problems in Iowa. These trends were selected because they are considered important by many of Iowa's people. They are frequently mentioned in terms of acute concern regarding the future of rural areas. I have neither attempted to explain, to analyze, nor to suggest solutions to the problems of rural Iowa. My purpose was only to give an overview of some of the significant trends affecting the people, the institutions, and the development of rural areas.

RURAL INDUSTRIALIZATION:
A POLICY INSTRUMENT FOR RURAL DEVELOPMENT

By Don Kaldor
Professor of Economics
Iowa State University

"...rural development without adequate attention to jobs and income is likely to be both quite sterile and unsatisfactory for most rural people."

"If it is true, as some people believe, that the uncounted national benefits of industrialization in rural areas greatly exceed the uncounted national costs, there would be a strong rationale for direct federal subsidation of rural industrialization."

THE WELFARE of rural people has many dimensions. Obviously, jobs and income are the means for achieving some of the important goals of rural people. For some analysts and policy makers, the creation of new jobs and the improvement of rural incomes are the beginning and end of rural development. While this is much too narrow a point of view, rural development without adequate attention to jobs and income is likely to be both quite sterile and unsatisfactory for most rural people.

Adjustment Pressures in the Rural Community

Spatially, the traditional rural community consists of a small town and a surrounding countryside. In terms of economic activity, the town is primarily a farm service center. People living in the countryside earn their incomes mainly in farming. Agriculture is the principal or only industry based on export demand (i.e. demand originating outside the community). For the most part, the incomes generated in farming are spent for goods and services offered in the town. The town people provide farm people with marketing services, farm supplies and consumer products.

Residents of the town earn their incomes mainly by supplying products to farm people and to themselves. Personal services and the merchandising of imported goods (i.e. products made outside the community) provide most of the local nonfarm employment. Exports of farm products pay for most of the goods imported. The population of the town is determined to a large extent by the size of the surrounding trade area and this, in turn, is strongly influenced by transportation considerations.

At some point in time, all or nearly all of Iowa's urban places probably approximated this conception of the traditional rural community. Many still do. Some, however, have broken out of this mold and have become cities and metropolitan areas. The breakout has been associated with the establishment of a growing number of nonfarm export industries, providing new jobs and new sources of income.

Today, Iowa has over 900 urban places with populations ranging from less than 50 to almost 200,000. But only 27 of these places have populations of 10,000 or over. The vast majority of the others are largely or exclusively traditional rural communities.

During the past three decades, the traditional rural community has been subjected to strong adjustment pressures. In the countryside, forces associated with agricultural development (e.g. advances in farm technology) and national economic growth (e.g. rising per capita income and a growing relative scarcity of labor) have depressed relative income earning opportunities on all but the best organized farms. These farms have escaped much of the impact as a result of internal adjustments and government price and income support programs.[1]

Partly because of the kind of improvements in farm technology and partly because of the growing number and attractiveness of nonfarm employment opportunities, the heaviest adjustment burden in agriculture has fallen on human resources. This is reflected in the fact that returns to human effort in farming have been lower in relation to long-run opportunity costs (i.e. returns to nonfarm labor) than that for either land or capital. Some of the improvements in farm technology have required a larger land base to make adoption profitable. As a result, there has been strong pressure to increase farm size. But all farmers in an area cannot simultaneously increase their land base because the total amount of farm land is relatively fixed. If some are to be successful in obtaining control of more land, others must either give up farming or reduce their land base.

In adjusting to these pressures, there has been heavy out-migration from many agricultural areas as farm people have left in search of better opportunities. Although this has helped to boost per capita farm income, the decline in farm population and the number of farms has tended to reduce the relative size of the farm market for some of the goods and services offered by rural towns.

The impact of structural adjustment in agriculture on the demand for resources in rural towns has been reinforced by the effects of improvements in automotive transportation. The reduction in the cost of travel, particularly the time cost, has enlarged the geographical area over which both farm people and town residents have spent their incomes. Larger urban areas, offering a greater variety of goods and services, have attracted demands away from the rural town. The trend toward new methods of merchandising (e.g. self-service super market vs corner grocery store) has also tended to reduce the demand for labor in many rural towns. At the same time, growth of the national economy has created a large total increase in job opportunities paying a rising reward in wages and fringe benefits. Historically, most of these new jobs have been located in the larger cities and metropolitan areas.

As a result of these and other developments, many Iowa rural towns have experienced a problem of excess resources and relatively low earning opportunities not unlike that in farming. And frequently the response of rural town people has been similar--to migrate in search of better opportunities elsewhere--which has further reduced the demand for resources in the town. Some of the consequences can be observed in the form of vacant and abandoned business buildings, unused school rooms, obsolete and deteriorating public capital (e.g. streets), smaller church congregations and sometimes an expressed feeling of frustration and even hopelessness.

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[1] For evidence see USDA, Parity Returns Position of Farmers, Report to the Congress of the United States, Senate Document No. 44, 90th Congress, 1st Session, U.S. Government Printing Office 1967 and Comparison of Resource Returns of Well-Organized Iowa Farms with Selected Nonfarm Opportunities, Iowa Agricultural and Home Economics Experiment Station, Research Bulletin 491, March 1961.

Some rural towns, however, have been fortunate enough to escape many of the consequences associated with agricultural development and national economic growth. These towns have attracted new export industries. Consequently, nonfarm labor demands have increased enough to provide attractive employment opportunities for labor released from farming and for the natural increase in local labor force. In some cases, the increase in nonfarm labor demands has been sufficient to encourage substantial inmigration from outside the community.

There is now a growing national interest in rural industrialization. Communities in every nook and corner of the country are vying for a piece of the industrial pie. State-supported agencies have been established to encourage and promote industrial development. While federal agencies, particularly DOD and NASA, have had a significant impact on the location of industry in the past two decades, there has been no clearly defined federal rural industrialization policy similar to that in a number of other countries. Only recently have there been some signs which suggest that such a policy may be taking shape.

Benefits and Costs of Rural Industrialization

Benefits

The case for rural industrialization rests heavily, but not exclusively, on income and employment arguments. Let's briefly consider some of the major potential benefits of industrial expansion in rural communities:

(1) It can increase income and employment in rural towns.

The creation of new jobs through rural industrialization can increase both the quantity and quality of employment in the community. The magnitude of the increase depends largely on the size and kind of business expansion that occurs. If a new, highly automated production facility locates in the community, the impact on the demand for local labor is likely to be small. On the other hand, if an export service firm comes to town which uses a high proportion of labor to other inputs, the increase in labor demand is likely to be relatively large, assuming both operations have equal output capacity.

The initial increase in labor demand because of a new production facility may draw people into the labor force. Some people who are already in the employed labor force may move up to better paying jobs. This will open up old jobs for other people. If there has been unemployment in the community, it is likely to be reduced. In general, people who are working at the new facility will experience an increase in income. Local business firms selling goods and services to the new enterprise will also experience increased incomes.

Of course, the income and employment effects do not end with the initial impact. The initial increase in income will induce increased spending by the workers employed at the new facility. This spending will be allocated over a wide range of locally supplied goods and services. As a result, local businesses generally will experience improved incomes. If demands increase enough, businessmen may hire additional workers and perhaps expand their physical facilities which will further increase the demand for local resources. Once the community's labor supply is "fully employed," new demands for labor will have to be met by in-migration. Wages may have to rise to encourage the inflow unless there is significant unemployment elsewhere. Some of the increase in income may be spent outside the community. This leakage will restrain the rise in community income but will tend to increase the incomes of communities in which the income is spent. If there are export trade relations with such communities, there will tend to be a feedback effect through exports which may reduce the leakage restraint on the increase in community income. Thus, for the depressed rural community, industrialization can bring a new economic vitality that would be extremely difficult to achieve any other way. But unfortunately, industrialization is not likely to be a feasible alternative for all rural communities.

(2) It can facilitate structural adjustment and improve resource returns in farming.

In spite of a high rate of structural adjustment during the past three decades, the nation's farm industry continues to be burdened by serious resource imbalances. The biggest of these is labor. The imbalance in human resources remains so large that decline in the input of labor can be expected for years to come. By providing more attractive alternative employment opportunities in a familiar environment, rural industrialization can boost the returns to labor presently earning a lower rate of return in farming. This may occur in two ways.

(a) If industrialization occurs within commuting distance, the operator experiencing low labor returns in farming may take a job in town and continue to farm. This will tend to happen if there has been serious underemployment of operator and family labor. If the farmer is an owner-operator he may rent out his land, take a job in town and continue to live in the country. If the new job opportunity is beyond commuting distance, he may quit farming, take a nonfarm job and move his residence to town. Of course, the opening up of job opportunities may also attract farm operators' wives and older children into nonfarm employment so that farm families may experience an increase in the number of income earners also.

(b) When the farm operator who takes a nonfarm job quits farming, land is released for use by others. This might be a new entrant (a beginning farmer) or a present farm operator. Because of economies of size made possible by modern machine technology, many farmers are looking for additional land to buy or rent. Their present farms are too small in terms of land and capital to make the most productive use of available labor and modern technology. Insofar as the released land is consolidated with existing farms operated by these farmers, they will experience an increase in labor returns also. However, if the released land is taken over by beginning entrants, this improvement in labor returns will not occur. But rural industrialization can influence the rate of entry into farming also. By providing attractive nonfarm job opportunities in a rural setting for young men who would otherwise go into farming, more of the land released by operators who die, retire or quit to take nonfarm jobs can be consolidated with existing units that are too small to provide parity returns for labor. If the creation of rural nonfarm jobs reduced labor input in farming to the point where total farm output started to decline because of extensification, government costs of price and income support programs could be reduced without adversely affecting farm prices or the incomes of farmers generally.

(3) It can reduce family income differences in rural communities.

Industrialization can reduce family income differences in the community by raising the incomes of relatively low income families more than the incomes of relatively high income families. When industrialization occurs in a rural community, a selectivity process is set in motion that determines who will be employed in the new jobs. The selection of workers for the new or expanded business is influenced by the nature of the new demands for labor and also by the nature of the supply of workers offering labor services. To simplify the argument, we will assume that the new demands for labor involve skills and knowledge either generally available in the community or capable of being acquired after a period of training provided by the firm. With this assumption, the selection of workers will depend largely on who offers labor services.

People who apply for the new jobs are not likely to be a random sample of the local labor force. In general, an offer of labor service may be expected when the new job pays a wage plus fringe benefits that exceed the marginal return in present use. Thus, the offers of labor services are likely to be heavily weighted with farm operators from small farms, people who are unemployed and persons in nonfarm jobs paying a lower rate of return. In general, these are the people in the community who have relatively low incomes. As a result, much of the initial income effect from employment at the new or expanded business is likely to have its incidence among lower income families, raising their incomes absolutely and relative to the incomes of other people in the community. Evidence that this actually occurred among farm operator families was uncovered in a study of the impact of new industry on a rural community of Eastern Iowa.2/

(4) It can reverse the pattern of out-migration from rural communities.

Much of the depopulation of many rural communities can be explained by the lack of attractive local employment opportunities for labor released from farming and for residents of the town. By providing such opportunities, industrialization cannot only reduce or prevent further out-migration, but if it's of sufficient magnitude, it can encourage in-migration and an increase in community population.

Insofar as the community has unused physical facilities as a result of past out-migration and insofar as continued out-migration would produce a need for additional facilities in the communities to which the migrants move, local industrialization can induce a resource savings effect that can be transformed into higher incomes generally. Moreover, insofar as migrants from rural communities add to the population of a metropolis and directly or indirectly contribute to the problems of crime, congestion, pollution, racial discrimination, etc., rural industrialization can reduce the magnitude of these problems in metropolitan areas. And insofar as the problems of a metropolis are an out-growth of large population concentrations, the overall national magnitude of these problems will diminish.

(5) It can increase the tax base of local and state governments.

By improving incomes, increasing population and expanding the value of business properties, rural industrialization can enlarge the revenue base of local and state governmental units. But the gain in income tax, sales tax and property tax revenue is not likely to be a net gain, since industrialization is likely to induce an increase in demand for public services also. However, insofar as there are size economies in the supplying of public services, and there is a growing amount of evidence of this, the increased demand for public revenue to provide the same per capita services would not expand as much as the supply of public revenue. So per capita services might be increased or the tax load might be lightened.

2/ Iowa Agricultural and Home Economics Experiment Station, Impact of New Industry on an Iowa Rural Community, Special Report No. 37, April 1964.

Uncounted Benefits and Costs in Rural Industrialization

The immediate decision to locate new business or to expand old businesses in a rural community is made by firms. A decision to locate or expand typically means that the firm anticipates a flow of future benefits in relation to future costs greater than that offered by alternative uses of investment resources, allowing for differential uncertainties. In arriving at this decision, the firm is likely to take account only of the benefits and costs accruing to the firm and hence the managers and owners. Any benefits or costs accruing to other people that are not reflected in the benefits and costs accruing to the firm generally will not be counted by the firm and, consequently, will not influence the decision to locate or expand.

There can be little doubt that there are such benefits and costs associated with rural industrialization. For example, firms considering the location of new production facilities in rural areas are not likely to take account of the population effect on metropolis with its impact on congestion, crime, pollution, etc. It is these uncounted benefits and costs that provide the basic economic logic for a positive governmental rural industrialization policy. Unfortunately, there has been little research which systematically identifies these benefits and costs and estimates their size. This seems to be an area of needed research having high priority.

Costs of Rural Industrialization

While rural industrialization may generate large benefits, these benefits cannot occur without costs (i.e. the sacrifice of something valuable by one or more persons). Of course, many of the costs involved in rural industrialization are compensated costs (i.e. the person incurring the cost is paid something, usually money, of equivalent or greater value). This is typically true of the resource costs involved in establishing and operating the new or expanded production facility, at least insofar as the business covers its factor costs and survives. But there are likely to be uncompensated costs also. These are the costs that normally do not get counted by firms in making their benefit-cost calculations that influence the decision to locate or expand. In some cases, however, it is difficult to determine whether the cost is fully compensated, partially compensated or wholly uncompensated. It also needs to be recognized that sometimes what is viewed as a cost (i.e. a sacrifice of something valuable) by one person may be viewed as a benefit (i.e. a receipt of something valuable) by another person. This may happen when the dimensions of individual welfare (i.e. people's goals) are in conflict.

Among the costs of industrialization that are likely to be uncompensated, those that involve the environment appear to be particularly significant. A new industrial facility coming to a rural town may increase congestion and traffic. It may add to the noise level and dirty the air and water. The magnitude of environmental effects will depend on the kind and size of the industrial facility. Because of differences in production processes, some industries pollute more than others. The effects also will depend on the extent to which government policies internalize these costs by encouraging businesses to develop and use pollution reducing technologies and emission control devices.

Rapid and extensive industrialization in a rural community may increase insecurity of life and property by attracting people who are prone to make a living outside the law. If it results in heavy concentrations of people with widely different backgrounds and value systems, there also may be an increase in social tensions and conflicts. As a result, the community may have to devote additional resource to police protection and to working out more effective mechanisms for resolving internal conflict.

The uncompensated costs are not likely to fall equally on all individuals in the community. Moreover, their incidence will not necessarily be in accord with any of the commonly used principles for distributing public costs (e.g. ability to pay or benefits received). However, by appropriate public policies, there may be opportunities to transform some of the uncompensated individual costs into compensated public costs with the burden being distributed on basis of the tax structure.

Interest and Action in Iowa Rural Communities[3/]

Interest in industrialization is strong in Iowa's rural communities. A 1971 survey of all Iowa towns with 1970 populations ranging between 1,600 and 8,500, located beyond 20 miles of a metropolitan area, showed that 98 percent had some organized effort to encourage industrial development in the community. In response to the question--do most people in your community want industrial development--only 5 percent of the community industrial development leaders gave a negative reply. Reasons for wanting industrial development emphasized employment and income considerations. Industrialization was favored most by businessmen, professional people, and workers. It was favored least by retired and older people. The vast majority of respondents indicated that people in their community had a preference as to the kind of industrial development they wanted. Most of the expressed preferences ran to odor free, non-polluting industries, several small firms rather than a single large firm, and businesses offering employment to women.

Among the 115 towns surveyed, 284 separate organizations were reported as active in local industrialization efforts. Profit and nonprofit development corporations were reported more frequently than any other organization. They were followed by chambers of commerce and town

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[3/] The data and information presented in this section are based on preliminary results from an incompleted study of industrialization efforts and experiences of Iowa rural communities conducted under Project 1873 of the Iowa Agricultural and Home Economics Experiment Station. The author wishes to acknowledge the important contribution of Mike Dahlke, formerly research assistant in the Iowa Agricultural and Home Economics Experiment Station and currently economic analyst, Northern Natural Gas Co., Omaha, Nebraska, in conducting this study.

governmental units (e.g. town councils and city commissions). In a few towns, regional development organizations were active in encouraging industrialization. Over three-fifths of the organizations had been involved in industrial development activities for a period of 10 years or more. Financial support for these activities came from a variety of sources. The principal ones in order of frequency were membership dues, sale of stock in development corporations and donations from local citizens. In over three-fourths of the towns, profit and nonprofit development corporations were the most active organizations encouraging industrial expansion.

The methods used in trying to attract new industries to the community included advertising, mass distribution of brochures describing industrial location advantages of the community, sending representatives to industrial fairs and other meetings providing opportunities to talk with business representatives, direct contacts with firm prospects and offering of land and buildings for business operations. In general, the level of these activities varied directly with town size, reflecting wide differences in the amounts of resources available for encouraging industrial development. Many of the organizations also were active in community betterment projects aimed in part at making the town more attractive for industrial location.

Leadership of the industrial development effort typically was in the hands of businessmen, bankers or professional people. The average age of the leader was about 49 years. He had lived in the community nearly 26 years and had about 10 years of experience in industrial development work. About 45 percent of the leaders had taken some formal training which they judged to be useful in their leadership role. Most of these people were also active in other community organizations. The time spent by leaders in industrial development work ranged from less than 100 hours per year to more than 900 hours per year. In towns of 4,500 to 8,499 population, the input of time averaged about 656 hours. This declined to 330 hours for towns of 2,500 to 4,499 population and to 137 hours for towns of 1,600 to 2,499 population.

Firm contact activity is probably one of the better measures of the industrial development effort since it represents an overt act to interest firms in locating in the community. During the 1968-70 period, 91 percent of the towns included in the survey made direct contacts (i.e. by personal mail, telephone, or meeting) with firm prospects. Firm contact activity varied directly and consistently with town size. Whereas all of the largest towns were involved, 85 percent of the smallest towns engaged in direct contact activity. The average number of firms contacted by all towns was 4.4 per town with the smallest towns contacting less than half as many firms as the largest towns.

If the firm contact activity has been successful, the next step is usually for the firm to send representatives to the community to appraise the situation firsthand. The mean number of firms sending representatives during the 1968-70 period was 3.2 per town. On the average, about 73 percent of the firm contacts resulted in the sending of representatives to the community. There was little difference in this percentage for the largest and smallest towns.

After surveying the local situation, appraising the advantages and disadvantages of the community as an industrial location and interacting with local citizens, the firm makes a decision. During the period covered by the survey, a decision to locate a production facility in the community was made on the average by 1.4 firms per town. This represented 44 percent of the firms sending representatives and 32 percent of firms contacted. The largest towns had a somewhat better decision ratio than the smallest towns, but the difference was slight. However, the absolute number of firms deciding to locate in the largest towns was on the average a third larger than that in medium size towns and over 2½ times that in the smallest towns.

New Firm Location Experience

Location of new business firms in the communities studied was not confined to those contacted by development organizations. An average of 3.1 firms, employing 3 or more people, located in these communities during the 1968-70 period. This was more than double the number deciding to locate after development organization contact. In other words, more new firms with no development organization contacts located in these communities than new firms with development organization contacts. The percentage ratio of new firms with development organization contacts to total new firms was lower for the smallest towns than for the largest towns. But the absolute number of new firms per town locating in the largest towns was a third greater than that in the medium size towns and double that in the smallest towns.

New firms locating in the survey communities during 1968-70 added an estimated 40 full-time jobs per town. The average for small towns was 22, that for medium size towns was 37, and that for the largest towns was 68. Over 20 percent of the largest towns had new firm employment amounting to 100 or more workers. The comparable figure for medium size towns was 9 percent and that for the smallest towns was 4 percent. As measured by employment, new firms locating in the largest towns were bigger than those locating in the smallest towns. Firm employment level increased directly and consistently with town size.

Additional employment was generated by new firms during the period of plant construction and building remodeling. Although estimates of this employment effect could not be obtained, data were collected on new firm expenditures for plant construction and remodeling. The average expenditure for all towns was $270,000 per town. The expenditure for the largest towns averaged almost three times that for the smallest towns.

Firm Expansion Experience

Although local development organization activities appeared to be designed primarily to encourage the location of new firms in the community, growth of existing firms created more additional employment opportunities than new firm locations in the 1968-70 period. Overall, expansion of existing firms generated about 48 new full-time jobs per town. Again, the number of new jobs created by firm expansions varied directly and consistently with town size.

About four-fifths of the towns surveyed had firm expansions involving 3 or more additional workers during the 1968-70 period. Only 6 percent of the largest towns failed to experience significant (3 or more workers) business expansions, whereas 17 percent of the medium size towns and 28 percent of the smallest towns had no firm expansions. The average number of firm expansions for all towns was 2.5 per town with the largest towns experiencing more than double the number experienced by the smallest towns.

Construction and remodeling expenditures by expanding firms also exceeded that by new firms. In absolute terms, the excess was greater for the largest towns than for the smallest towns. More than half of the largest towns had firm expansions involving construction and remodeling expenditures of $400,000 or more. The comparable figure per medium size town was 46 percent, and that for the small towns was 14 percent.

Firm Liquidations

About half of the towns included in the survey had one or more business liquidations during the 1968-70 period. The proportion of towns experiencing firm liquidations was somewhat higher for the largest towns than for the smallest towns, although the difference was not substantial. Towns in the 1,600 to 2,499 population class had firm liquidations averaging 0.5 of a firm per town. The figure for towns with 2,500 to 4,499 people was 0.7 and that for towns in the 4,500 to 8,499 population class was 0.8.

The average number of workers losing jobs as a result of firm liquidation was about 18 per town. The estimate for small towns was 11. For medium size towns it was 9, and for large towns it was 37. Large towns experienced more firm liquidations than small towns and the average level of employment in firms going out of business was higher in large towns than in small towns. Although information was collected on the characteristics of the firms involved in industrialization, the data have not been analyzed as yet. Consequently, we do not know what kinds of firms were liquidated or what kinds of firms located and expanded in the communities. If we find some clear uniformity patterns in the data, this information could be helpful in appraising the industrialization potential of rural towns.

Evidently most of the workers who lost jobs because of firm liquidations found other employment without extreme difficulty. Based on information provided by development organization leaders, it was estimated that of the group losing jobs, about 36 percent found other employment "easily," 49 percent found other jobs "with some difficulty" and 15 percent had not found jobs up to the time of the survey. About 13 percent of those not finding other jobs withdrew from the labor force and retired.

Differences in the reemployment experience of workers was associated with town size in a somewhat surprising way. In the smallest towns (1,600 to 2,499 population range), 94 percent of the workers losing jobs found alternative employment "easily." This contrasts with 35 percent in medium size towns (2,500 to 4,499 population) and with 11 percent in largest towns (4,500 to 8,499 population). At the other extreme, a fourth of the workers unemployed in the large towns had not found other jobs. In the medium size towns, the comparable figure was under 2 percent. All of the workers losing jobs in the smallest towns were reported as having found alternative employment. Perhaps one reason for the less satisfactory reemployment experience of workers in the largest towns was the fact that a higher proportion of the firm liquidations in these towns involved 70 or more workers.

Net Employment Effect

New firm locations and growth of existing firms add to total employment whereas firm liquidations subtract from total employment. Table 1 brings together the estimates of the separate employment effect of each and the combined net employment effect, classified by town size. Also shown in Columns (7) and (8) are the percentage breakdowns by town size of the total net employment effect in the 1968-70 period and the estimated total base year (1967) total employment.

As mentioned earlier, both positive sources of additional employment showed a direct relation between the amount of additional employment and town size. This was not true for employment loss due to firm liquidations where medium size towns experienced a lower loss than either the smallest towns or the largest towns. The net employment effect, however, still showed a direct and consistent relation to town size. Medium size towns experienced about twice as large a net employment effect per town as the smallest towns. The net employment effect in the largest towns was nearly three times that in the smallest towns.

A comparison of the estimates in columns (7) and (8) indicate that the smallest towns shared in the 1968-70 increase in employment in nearly the same proportion as they shared in 1967 total employment. Industrialization in the 1968-70 period was roughly neutral with respect to the relative employment position of the small towns. But medium size towns shared in the increase in employment more than in proportion to their share in 1967 total employment. The relative employment position

TABLE 1 Employment Effects of Industrialization, 1968-70, by Town Size, Iowa Towns with 1970 Population of 1,600 to 8,500

Town Size	(1) Number of Towns	(2) Added Employment by New Firms		(3) Added Employment by Expanding Firms		(4) Total Positive Employment Effect		(5) Employment Loss by Firm Liquidations		(6) Net Employment Effect		(7) Percent of Total Net Employment Effect	(8) Percent of Base (1966) Year Employment
		Total	P/T*	Total	P/T	Total	P/T	Total	P/T	Total	P/T		
1,600 to 2,499	47	1,280	22.2	1,280	27.2	2,322	49.4	519	11.0	1,803	38.4	22	23
2,500 to 4,499	35	1,287	36.8	1,847	52.8	3,134	89.6	307	8.8	2,827	80.8	35	27
4,500 to 8,499	33	2,232	67.6	2,453	74.3	4,685	141.9	1,147	34.8	3,538	107.2	43	49
TOTAL	115	4,561	39.7	5,580	48.5	10,141	88.2	1,973	17.2	8,168	71.0	100.0	100.0

* P/T - Per Town

of these towns was increased by industrialization in the 1968-70 period. On the other hand, the largest towns shared in the increase in employment less than in proportion to their share in total 1967 employment, so industrialization reduced the relative employment position of these towns.

Inter-town variation in the net employment effect was large, ranging from a decline of more than 100 workers to an increase of more than 300 workers. As measured by the coefficient of variation, large towns exhibited less variation than small towns and small towns exhibited less variation than medium size towns.

When the net employment effect was measured in relation to base year (1967) total employment, it was found that the towns included in the study experienced an average increase in employment of 5.4 percent over the 1968-70 period. The percentage increases for the different town size classes were quite similar, being slightly above average for the medium size towns, about equal to the average for the smallest towns and slightly below average for the largest towns.

Inter-Town Variation in Employment Effects

The wide inter-town variation in the net employment effect of industrialization has been noted. What explains this variation? Why have some towns been much more successful than other towns in attracting new businesses and in experiencing business expansions? Have they had more effective industrial development organizations? Do they have superior industrial and living facilities? Perhaps factor prices have been lower? Maybe they have been closer to product markets? Or transportation costs may have been more favorable? These are some of the possibilities.

The question of what makes for success in rural industrialization is a critical one for the development of more rational local, state, and national policies to encourage nonfarm business expansion in rural towns. The question is exceedingly complex and good answers are not presently available. The case of Forest City and the Winnebago Corporation is illustrative. The positive employment effect of industrialization in Forest City was by far the largest of any of the 115 towns surveyed. But none of the usual comparative cost variables seem to explain why Forest City rather than one of 20 or more other Iowa towns became a major national producer of mobile homes and trailers. Fifteen years ago could Iowa State economists have predicted the industrial growth of Forest City? There will be other Forest Cities in the future. Can we identify these towns today? I believe the answers are fairly obvious. Is it that the location and growth of such businesses as the Winnebago Corporation is beyond explanation and understanding? Or is it that we have made little effort to explain and understand this phenomenon in the Iowa setting?

Past efforts to explain the pattern of industrial location within relatively homogeneous areas have been quite unsuccessful. Perhaps this is not too surprising when it is recognized that the basic determinants in the conventional models of industrial location such as product markets, factor prices, technology and transportation costs are not likely to vary greatly among locations with (say) Iowa. In other words, the comparative advantage position, as influenced by these broad factors, is probably quite similar for many of Iowa's rural towns. If this is true, it suggests that in trying to understand rural industrialization in Iowa we will have to go beyond the conventional models of industrial location theory.

So far our own efforts to explain inter-town variability in the employment effects of rural industrialization in Iowa have been equally unsuccessful. We collected considerable data on town characteristics that on an *a priori* basis might be expected to influence industrialization. This included information on transportation, sewer and water facilities, housing, medical and educational services, municipal services, and recreational and cultural facilities. Using this information we constructed two indices--one a measure of town industrial facilities and one a measure of town living facilities. In addition, we constructed a crude measure of the level of industrial development organization activities and a measure of external urban influence based on the number and distance from larger towns and cities. Using these along with other variables such as population, town location, etc., we have been experimenting with several regression models to explain the variation in absolute and relative employments effects. But the best we have done to date is to explain about a fifth of the variation in the dependent variables.

Future of Industrialization in Iowa

Iowa's two principal assets for industrialization are its human resources and its wide open spaces, both in relatively abundant supply. These assets, however, are not unique to Iowa. Moreover, there are many other factors that enter into industrial location decisions.

Iowa competes with other states and even foreign countries for the location of new production facilities in the United States and abroad. Within Iowa, rural communities compete among themselves and with Iowa's metropolitan areas and larger cities for new industrial growth. Competitive positions are influenced by numerous factors frequently summed under the heading comparative advantage. These include market demand considerations, technological, cost and supply considerations, transportation considerations, and considerations relating to living conditions. Since these factors are constantly being modified, competitive positions are continuously changing. Nevertheless, there is a very large element of history reflected in current industrial location decisions.[4/]

[4/] For a discussion of this point, see Robinson, E.A.G. *Location Theory, Regional Economics and Backward Areas*, in Backward Areas in Advanced Countries, MacMillan, London 1969.

For many years, there has been a fairly direct association between the location of new industrial facilities and the location of past industrial facilities. Areas that already have experienced heavy industrialization have tended to attract a very large share of new industrial development. Of course, this is strongly reflected in the historical growth of such industrial areas as New York, Chicago, Los Angeles, etc. The explanation frequently given for this phenomenon runs in terms of cost economies, largely external to the firm, which arise in the process of concentrating industrial facilities in a small geographical area. However, it is now becoming apparent that, at some point in the growth of a metropolis, diseconomies overtake and exceed the economies. When this happens, industry begins to leave the inner city for the suburban fringe and for other areas of less concentration. Outside firms select other locations for establishing new production facilities. And growth of metropolis begins to slow down. Undoubtedly, this would occur at a lower level of concentration if all the uncounted costs of industrialization were internalized for firms.

In 1962, the 193 largest labor market areas in the United States had 73 percent of the nation's total manufacturing employment.[5/] Between 1962 and 1969, about 63 percent of the increase in manufacturing employment occurred in these areas. But the rate of gain in manufacturing employment was less than that in the smaller labor market areas. By 1969, the share of total manufacturing employment in the largest labor market area had fallen to 71 percent, whereas the share in the smallest labor market areas rose from 27 to 29 percent. While the big labor market areas continue to experience most of the absolute increase, smaller labor market areas are gaining on the bigger ones.

The tendency of new industrial facilities to locate in areas already heavily industrialized also is observable in Iowa, although on a much smaller scale. Much of Iowa's industrial growth since the end of World War II has been located in the metropolitan areas (e.g. Des Moines, Waterloo, Cedar Rapids, Davenport, etc.) and the larger non-metropolitan cities (Ames, Fort Dodge, Burlington, Iowa City, Marshalltown, etc.). As noted earlier, many smaller towns have been experiencing some industrialization. But instances of substantial industrial development in the more strictly rural communities have been relatively infrequent. The Forest Cities are rare indeed. The forces operating to locate most of Iowa's industrial growth outside the rural towns appear to be strong

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[5/] Horen, C.C., Rural Industrial Growth in the 1960's, American Journal of Agricultural Economics, Vol. 52, Number 3, August 1970.

and they are not likely to be easily reversed. Unless drastic changes are made in federal and state industrialization policies, it seems highly probable that future industrial development in Iowa also will be heavily concentrated in the metropolitan areas and the larger cities, at least until such time as the disceonomies of concentration become more important. This and the economies and wider variety of products associated with size of the urban market provide much of the rationale for the application of the functional economic area concept to Iowa development.[6/]

A functional economic area consists of a central city of sufficient size or growth potential to reap most of the economies in the production and distribution of goods and services having cost-volume relationships that are quite sensitive to the size of the market. This includes public services and producer and consumer goods and services demanded in the area. Most of the area's export employment is located in the central city which draws its labor force from the central city, satellite towns and the area's countryside, all within commuting distance. Satellite towns provide a place of residence for some of the people in the area and offer a limited range of public and merchandising services. But residents of the satellite towns spend a considerable part of their income for goods and services offered in the central city, partly because if they work there it may be more convenient and because of the variety and specialized nature of the goods and services offered. Industrial development, except for that involving some public services and merchandising activities, is concentrated mainly in the central city.

One of the implications of this approach to rural development is that communities in the area should cooperate and not compete in industrial development. Community resources for encouraging industrialization should be pooled and their use should be planned on an area-wide basis. Since the central city is within commuting distance for area residents, the benefits from new or expanded industrial facilities in the central city would tend to be felt over the entire area. Of course, it is not likely that people at different locations would participate in the benefits equally or even in proportion to costs incurred.

Planning for development on an area basis would require an area planning mechanism with adequate resources. Implementation of area-wide plans also would require resources and the cooperation of area communities. If such cooperation is to be forthcoming, there may be need for a careful assessment of the distribution of benefits and costs and the development of instruments for eliminating wide disparities between the incidence of benefits and the incidence of costs among people in the area. If some

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[6/] See Fox, K. A., The Concept of Community Development, in CAED Report No. 19, Fundamentals of Area Progress, Iowa State University, 1963 and the report prepared by Eldridge, Eber, A Regional Delineation for the State of Iowa, Office of Planning and Programming, State Capital, December 1967.

communities anticipate only small benefits but they expect to incur relatively large costs as a result of participation in the area development plan, they are very likely to stay competitors and not become cooperators. The functional area approach also would seem to require a major modification of present governmental structures, partly to provide for the planning and implementation needs of area-wide development, and partly to secure the economies in public service made feasible by the area approach.

The evidence and arguments in support of an area approach to industrial development are strong in the Iowa context. This is particularly true if it is recognized that area delineations drawn for purposes of organizing and carrying out development activities at time t may become as outmoded as some of our present geographical units at time t_n. Underlying factors which determine the optimum area change over time and the area concept needs sufficient flexibility to accommodate such changes.

Industrialization Policy

A few comments on public policies relating to rural industrialization may be in order.

What an individual community or a set of communities in an area can do to encourage industrialization is restrained and conditioned by developments external to the community or area. One of the more important of these developments has to do with the overall growth of the economy and the federal policies that influence this growth. These policies can be designed to encourage increased concentration of jobs and other income earning opportunities in metropolises or they can be designed to encourage the dispersal of population and jobs in more sparsely settled areas. And a consideration in the selection of federal growth policies is population control and dispersal policy. Since the location of people is largely determined by the location of jobs and since efficient job creation is influenced by population location and natural advantages, federal population and industrialization policies need to be jointly determined if they are to be reasonably rational. As a society, we must weigh the costs and benefits of different combinations of growth and population dispersion. It may be that we can have more population dispersion than at present without having to sacrifice significant growth. But at some point in dispersing population we probably will have to pay a price in terms of less growth. In the present state of knowledge, there is much uncertainty about what these trade-offs are. There seems to be even less information about society's preference function.

A number of European countries have developed industrialization policies designed to create jobs in rural areas. Some of their programs are similar to some of ours. For example, they provide low interest loans and sometimes grants for improvement of the rural infrastructure, e.g. roads, sewage and water facilities, etc. But they also have gone beyond this in providing direct and indirect subsidies to firms that locate or expand in rural areas.

If it is true, as some people believe, that the uncounted national benefits of industrialization in rural areas greatly exceed the uncounted national costs, there would be a strong rationale for federal direct subsidization of rural industrialization. Likewise, if the uncounted benefits to Iowa people exceeded the uncounted Iowa costs, there would be a strong rationale for direct state subsidization of rural industrialization in Iowa. In neither case is the available evidence sufficient to make a judgment beyond reasonable doubt, however. I believe there is a stronger presumption that this is true in the national case than in the state case, but it may be true in both cases. One thing is reasonably clear and that is the need for more research to help resolve these kinds of uncertainties.

THE IMPORTANCE OF POLITICAL IDEOLOGY IN RURAL DEVELOPMENT

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"There is no such thing as an operational ideology concerning rural development. The historic ideologies are still functional in limited ways and serve particular rural interests, but there is no ideology that encompasses the rural community as such."

"If we have no central, social, and political vision...at least as large as the state of Iowa, we may find ourselves concerned with research projects that are valuable largely, or at least in part, because of their concern with interest group preferences and disciplinary biases."

"There seems to be just as powerful a case for an Iowa State Agriculture and Community Development Institute as there was for a reorganized University Extension."

DEFINING THE TERM "political ideology" could absorb most, or even all, of our efforts in writing this paper. We have circumvented this difficulty by arbitrarily selecting the definition recently formulated by Kenneth M. and Patricia Dolbeare. In their judgment,

> "Political, and much of social life, involves the use of power to achieve goals amidst changing circumstances. Central to this process are beliefs about the present nature of the world and the hope one has for its future. Such beliefs and hope, when integrated into a more or less coherent picture of (1) how the present social, economic, and political order operates, (2) why this is so, and whether it is good or bad, and (3) what should be done about it, if anything, may be termed an "'ideology'"."[1]

We are attracted to this definition because of its emphasis on "beliefs" and "hopes" and because of their willingness to be concerned about views of "order" relative to whether they are "good or bad." We appreciate the difficulty of trying to use this definition empirically because of their "more or less" phrase. If one claims that a person or group is non-ideological because there is no, or almost no, "coherent picture," then we probably arrive at the conclusion of the University of Michigan Survey Research Center--only a small percentage of Americans (perhaps up to 12 percent) have an ideological, or near-ideological orientation to political life.[2] If one places his emphasis on the "less" side, then we can agree with Arthur M. Schlesinger, Jr's, claim that the American character tends to be pragmatic in philosophical outlock, experimental in method, and skeptical in terms of the acceptance of final dogmas, and consequently not much concerned about fitting together all the parts of the human puzzle into a systematic and coherent ideology.[3] Nevertheless, we agree with Arnold Kaufman that each acting citizen--which surely means nearly all of us, to some extent--acts from the basis of a more or less articulated set of ideological propositions.[4]

We would range far afield if we tried to evaluate the avowed necessities of and the dangers in an ideological approach to understanding political phenomena. Ideologies--at least in the definition we are employing--tend to be intensely normative, humanistic if not metaphysical in their essence, selectively descriptive, casually empirical, unilateral in causal interpretations, simplistically prescriptive, often unfairly judgmental, and inconsistently pragmatic. Be that as it may, this seminar will appreciate the ideological proposition that "man does not live by bread alone." Nor does one's value orientation have to be theological in order to place stress on the importance of valuations. David Hume, that caustic opponent of natural law theory, provided us with the proposition that "reason is and ought to be, the slave of the passions." Even so, Hume's dictum begs the central question: What is the source, the content, the quality of our "passions"?

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[1] Kenneth M. Dolbeare and Patricia Dolbeare, American Ideologies: The Competing Political Beliefs of the 1970's (Chicago: Markham Publishing Co., 1971) p.3.

[2] Angus Campbell, et. al., The American Voter (New York: John Wiley & Sons, Inc. 1960), especially chapter 9.

[3] Arthur M. Schlesinger, Jr., The Crisis of Confidence (N.Y.: Bantam Books, Inc., Q 5424, 1969), Chapter II.

[4] Arnold Kaufman, The Radical Liberal - The New Politics: Theory and Practice (New York: Simon and Schuster, 1970 edition), Chapter 5.

Our major premise is that a fundamental operative ideal encompasses all of the major ideologies which have become influential in American political life, and that this operative ideal is beautifully stated in the opening sentences of the Declaration of Independence: "...we hold these truths to be self evident, that all men are created equal, that among these are Life, Liberty and the pursuit of Happiness..." We realize that Jefferson, speaking for a committee, substituted "pursuit of Happiness" in lieu of John Locke's more utilitarian work "property," but we further premise that Americans have historically interpreted Jefferson's phrase to have included John Locke's concept of property within it. Finally, we premise that from this over-all operative ideal have sprung many American ideologies which have sought to give content and meaning to the goals (ends) of the American political system, that these goals have been set forth in the Preamble to the U.S. Constitution (we leave its re-reading to you in your leisure time), and that the principal purpose and function of ideologies in the American political science has been to give substantive content and meaning to these basic goals.

The First Ideological Theme: The Family Farm and Grass Roots Democracy

The first of these themes is embedded in Thomas Jefferson's proposition that "those who labor in the earth are the chosen people of God, if ever he had a chosen people, whose breasts he has made his peculiar deposit for substantial and genuine virtue"; in Thomas Paine's axiom: "that government which governs best governs least"; in John Taylor's concern over the growth of a national government which would stifle if not subdue the rights of the people in their conduct of what we now refer to as participatory democracy; and in Benjamin Franklin's naturalistic interpretations of the Puritan Ethic which soon became a part of the American folklore--maxims such as: "early to bed, and early to rise, makes a man healthy, wealthy and wise."

"Beginning in Jefferson's time," Leo Marx believes, "the cardinal image of American aspirations was a rural landscape, a well-ordered green garden magnified to continental size," and, to quote Jefferson somewhat out of context, "...all our citizens should be employed in its improvement..."[5]

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[5] Leo Marx, The Machine in the Garden: Technology and the Pastoral Idea In America (N.Y.: Oxford University Press, 1964), p. 141 and 124.

The Second Ideological Theme: Madison's Conception of a Pluralistic Republic

We might characterize James Madison as being a somewhat optimistic Hobbesian. Man will continually strive for his own self-interest; he will ally himself with those of like interests and beliefs; these factions will prove dangerous to, probably destructive of, human liberty if political institutions and devices are not constructed to move all factions toward an equilibrium position. Madison developed these ideological propositions in his justly famous Federalist No. 10: "The latent causes of factions are...sown in the nature of man... Those who hold and those who are without property have ever formed distinct interests in society...A landed interest, a manufacturing interest, a mercantile interest, a moneyed interest, with many lesser interests, grow up of necessity in civilized nations, and divide them into different classes, actuated by different sentiments and views...But the common and most durable source of factions has been the various and unequal distribution of property."

Madison's pluralism leads to interest groups, coalition politics, accommodation and compromise, a moving equilibrium of countervailing powers. Some would content that the institutionalization of his theory leads to stalemate and a defense of the status quo. To Madison, however, only in a political system constructed in this manner could both human liberty and human diversity be established and maintained.

The second theme was severely challenged during the coming of the Civil War. Ideologically, Madison's conception of pluralism was concerned with "white" America. That "peculiar institution," slavery, had to be defended and rationalized by an ideology based on a superior-inferior racial premise. We do far less than justice to John C. Calhoun's theory of the concurrent majority but, applied to slavery, it meant: (1) each major geographic section and social-economic class must retain an ultimate veto over the demands of the United States Congress, and (2) the white man must govern because the black man is, by nature, a slave. Seymour Lipset's analysis seems to be valid: The South lost the war but won the racial battle, at least for a century. The humanity of the black man was denied or at least held in substantial doubt; he was unable to function as a complete citizen and was fit only to be governed; and the white South would agree to a one-party South so that these "fundamental truths" could be effectively institutionalized.[6]

The Third Theme: Hamilton's Conception of the Natural Elite and Energetic Government

Alexander Hamilton has fared rather poorly in many accounts of American ideologies. We tend to damn him by quoting certain phrases which do indicate his basic belief that those who govern should be "the rich, the well-born and the able" because "the people are a great beast." Undeniably, he was an elitist. On the other hand, his advocacy of an energetic and positive national government was evident in his magnificent state papers on public credit, manufacturing, the Western lands, international trade, and national security.

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[6] Seymour Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Doubleday & Co., 1963), Anchor A330, Chapter XI.

Three considerations need to be stipulated to make Hamilton an important personage relative to rural America; he was, to be sure, a "city man." First, his elitism is the antithesis to agricultural fundamentalism: those who farm are not necessarily God's Chosen People. By implication, at least, the farm should be viewed as a business and farming as an industry; those who farm should have the desire, ability, and resources to farm. One must remember that "you cannot make a silk purse out of a sow's ear." Secondly, Hamilton was an ardent Nationalist; he desired to see the United States become a world power: economically wealthy, militarily secure, politically prestigious. This meant, thirdly, that an energetic and dynamic National government should serve the interests of the elite. His was no welfare-state utopia. If the "rich, the well-born and the able" were not the governors, as was often true after the period of Jacksonian democracy, then later generations of Hamiltonians would drastically alter their strategies: laissez-faire, states' rights, the "free" market, social Darwinism, or--to be more modern--Keynesianism, people's capitalism, the managerial revolution, and the self-governing, federalized, private corporation.

For obvious reasons, we assume, it is impossible for us to trace and analyze the development of these three themes through the various periods and trials of American history. We believe that it could be done, however. Indeed, in somewhat different forms and for different purposes, it has been done.[7] Today, as yesterday, all of us--and academicians are certainly no exception--tend toward the ideological posture of either Jefferson, Madison, or Hamilton.

We shall now attempt to sketch out these three major American ideologies in their modernized forms, and then try to relate them to the concept of rural development.

Modernization of These Three Ideologies: Mythology v. Reality

1. The Family Farm and Grass Roots Democracy (the Jeffersonian myth)

One of the enduring myths which seems to be suffused throughout urban as well as rural America is the Jeffersonian belief in the transcendental necessity of the family farm, which must be "the backbone of the republic." Perhaps an attitudinal survey of urban residents would disclose that a majority does not believe that the family farm is a cultural and economic necessity in this democratic republic. We would bet to the contrary, however, at least if the question is stated in a positive context by the interviewer rather than extracting that response from the interviewee.

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[7] Albert Fried (ed.), The Jeffersonian and Hamiltonian Traditions in American Politics (Garden City, N.Y.: Doubleday & Co., Anchor A 464, 1968).

We are not contending for or against the family farm ideology. Rather our contention is that the ideology continues to be vigorously alive, even though it is essentially useless to low-income, rural America. If we define a family farm as one from which the farm operator and his family is able to earn a "decent" living, then it has to be noted that less than 20 percent (19.1) of the farms in the U.S. in 1969 grossed over $20,000 in farm sales.[8] Over 50 percent (50.8) of these farms grossed less than $2,500 a year in 1969 from farm sales, including Federal price support and income-maintenance payments. What this means, and has meant for many years, is that Federal farms programs have been, and are, of miniscule value to the small-scale farmer and of almost no value to the low-income farmer.[9] And these are the persons, at least in significant part, toward whom rural development programs are presumably directed.

Likewise, grass roots democracy is an important element of our political folklore. If the farmer is to be "controlled" in terms of how much land can be used to grow certain crops, as well as how much he may receive in the way of direct payments should he choose, or be required, to participate in one of these Federal price and income programs, then by "the laws of nature and Nature's God," he should be involved in the decision-making process. In Rensis Likert's judgment: "It is important that the administration of any farm program be carried out in the way desired by most farmers and that the farmers themselves determine the rapidity with which existing procedures shall be changed."[10] And this proposition, it should be noted, was printed some 32 years ago in the celebrated and contested 1940 Yearbook of Agriculture.

Very recently Garth Youngberg (co-author of this paper) did some intensive research into this operational ideal of grass roots democracy, finding among American farmers a persistent, unmistakable ideological preference for participative governmental decision-making, coupled with an equally prevelant but contradictory reluctance to serve in those structures designed to foster citizen involvement.[11] Indeed, the responses of both ASCS county and township committeemen, as well as noncommitteemen show overwhelmingly that modern agrarians continue to subscribe to such basic and familiar Jeffersonian tenets as the inherent honesty, efficiency, and general ability of the ordinary citizen. Respondents, moreover, demonstrated an intense, widespread preference for local government and, conversely, distinct disdain for centralized national government structures, regulations and activities. In short, the collective responses from this sample vividly portray the pervasive remnants of Jeffersonian governmental and philosophical characteristics among today's farming population.

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[8] U.S. Senate--Committee on Government Operations, The Economic and Social Conditions of Rural America in the 1970's, 92nd Congress--First Session, Part 1 (Washington, D.C., U.S. Government Printing Office, May 1971), pp. 38-9. (The report was prepared by the Economic Research Service, USDA).

[9] Charles L. Schultze, The Distribution of Farm Subsidies: Who Gets the Benefits? (Washington, D.C.: The Brookings Institute, 1971).

[10] Rensis Likert, "Democracy in Agriculture--Why or How?, Farmers In a Changing World, USDA Yearbook of Agriculture-1940 (Washington, D.C.: U.S. Government Printing Office, 1940), pp. 1001-2.

In order to discover the extent of Jeffersonian ideology, particularly with respect to local, participative governmental institutions, respondents were asked several questions designed to tap this underlying attitudinal dimension. For example, 87.3% of all local respondents either approved or strongly approved of the use of local farmers for the administration of farm programs. Furthermore, 80.9% approved of local administration because of their belief that farmers receive fair and impartial treatment from locally-elected committeemen. Even more convincing evidence of the Jeffersonian legacy was the discovery that nearly half (47.4%) of all respondents indicated that they would not even participate in the various ASCS programs if these programs were administered by regular federal and state civil service workers instead of locally elected farmers. Why was this so? As one man put it: "I think there is too much federal government the way it is. I think they ought to leave more to the county." Another man expressed his dislike of centralized administration when he said: "It'd be people you didn't know in the first place and who didn't care about the neighborhood. If they needed one there'd be ten working in there." A third man replied: "I just like local government."

Even though a large majority of farmers clearly and strongly subscribe to Jeffersonian governmental principles at the abstract, ideological level, the data indicate a very un-Jeffersonian reluctance to operate as public servants in concrete cases. The tendency to defend and promote grass-roots governmental arrangements apparently stem from the symbolic appeal of such structures rather than any firm commitment to preserve them out of personal effort or involvement. For example, even though the vast majority of respondents preferred local, participatory administration, nearly 66% (65.8%) could not name a single member of their township committee, clearly the most Jeffersonian aspect of the committee system. Similarly, 62.9% did not know any of the members of their respective county committees. Furthermore, 56.1% had not talked for at least a year to a single member of the township committee, and 51.8% had not talked during that period to a member of the county committee. Finally, when non-committeemen were asked whether or not they would be willing to serve on the local committees if asked, only 37% indicated their willingness to serve on the township committee while only 26% would serve as members of the county committee.

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[11] The observations and generalizations in this section are based upon some of the data found in Youngberg's unpublished Ph.D. dissertation entitled Federal Administration and Participatory Democracy: The ASCS Farmer Committee System. Even though the respondents in that study were primarily active farmers and not residents of small rural towns, the authors feel that the sentiments expressed are reasonably typical of the ideological preferences of rural dwellers generally. At the local level, Youngberg's data includes the responses of 259 non-committeemen, 24 ASCS township committeemen, 12 county committeemen, four County Executive Directors and three area fieldmen. In addition, 16 non-respondent non-committeemen were interviewed. The survey was conducted in four midwestern counties, two in Illinois and two in Indiana. A total of 14 state level ASCS officials were also interviewed, including the state committees in both Illinois and Indiana.

One township committeeman characterized farmer attitudes toward serving on committees this way: "It's getting hard to get guys to do it. It's getting harder all the time. It don't pay too good. They don't want to bother with it." Another member of a township committee confessed: "I try to get out of it every year, but they just can't get anybody to be on it." A county-level vice chairman offered these comments when asked how he liked his job. He said: "I wouldn't campaign for it." Needless to say, an authentic Jeffersonian would never utter such words.

Aside from the inherently interesting contradictions and inconsistencies of the testimony, the obvious symbolic, emotional appeal of grass roots structures, (and, certainly the USDA promotes the Jeffersonian aspects of the committee system) has far reaching and significant negative implications for rural development. In essence, the existence of an almost universal emotional attachment to the vestiges of agrarian fundamentalism by today's rural population makes that clientele ready defenders (perhaps victims is a better word) of programs and procedures reputedly designed to preserve various aspects of that general philosophy--e.g. the family farm--to which the intended recipients are so enthusiastically committed. In other words, with a Jeffersonian clientele, the USDA is able to foster and maintain New Deal farm-program approaches by utilizing an essentially agrarian fundamentalist protective ideology for the purposes of gaining voluntary farm program participation. In this way the legitimacy of USDA administrative structures, activities, and general policies are preserved.

Youngberg's study is, admittedly, directed primarily at the ideology of grass roots democracy. However, we view the family farm ideal as basically a historical and philosophical conception, with the political and operational offshoot of that ideal being grass roots democracy. That is, the second follows logically and consistently from the first. And in empirical terms, the efficacy of the family farm can surely be at least questioned. If we use Marion Clawson's definition of a family farm--that is, "...a farm managed by one man, with labor supplied primarily by himself and the immediate members of his family, and with the farm the chief or perhaps the only source of income"[12] and then apply some of the findings from the 1969 Census of Agriculture and income data from the 1970 U.S. Census, we can doubt that the myths have essentially any empirical relationship to the definition just stated.

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[12] Marion Clawson, Policy Directions for U.S. Agriculture, (Baltimore: The Johns Hopkins Press, 1968), published for Resources for the Future, Inc., p. 113.

For example, in 1970, farmers earning less than $2,500 in farm product sales received almost 90% of their total incomes from off-farm earnings, and in 1969 that was 41.2% of the farms. Again, even those farms which ranged from $10,000 to $20,000 in gross farm sales received "...well over one-third of their total income from off-farm earnings."[13]

What seems to have occurred here, at least in political terms, might fairly be summarized as follows: politically, ideology is of primary concern to elites, or leadership-type personalities; these rural-farm elites institutionalize their ideological beliefs in the form of political interest groups; the interest groups develop political strategies and employ political tactics which are designed to protect and preserve their onw economic interests and, probably not incidentally, their own power positions within the various farm organizations.[14] You might agree with our summarization and still ask--so what? Don Paarlberg, currently the USDA's Director of Agricultural Economics, has recently looked at that question in a most candid manner:

> "The centers of rural political power have long been the farm organizations, the farm bloc in Congress (which now means primarily the Senate and House Agriculture Committees and Agricultural Appropriations Subcommittees), the Department of Agriculture and the Land Grant Universities. To what degree are these institutions committed to rural development? They differ greatly in their interest. But one would have to say, by examining programs and budgets, that all these institutions still have a strong commodity bias, rather than the orientation toward people that will be necessary if a substantial rural development program is to be launched."[15]

And James Sundquist has reached almost the same conclusion: "Farm groups exist, to be sure, but their interest in the economic interest of farmers as producers, and most rural Americans...are not farmers but small town and small city dwellers. And they are not organized at all.[16]

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[13] Federal Reserve Bank of Chicago, Agricultural Letter, No. 1143, Nov. 12, 1971, 1 page.

[14] These generalizations can fairly be drawn, we believe, from Angus Campbell, et. al., The American Voter (New York: John Wiley and Sons, 1960); and Samuel H. Barnes, "Ideology and the Organization of Conflict: On the Relationship Between Political Thought and Behavior", The Journal of Politics, August 1966, pp. 513-31. We should note, however, that one of our colleagues, John L. Sullivan, is now engaged in research which leads him and his fellow researchers to the tentative conclusion that individuals other than elites are considerably more ideologically conscious than the aforementioned studies indicate; Youngberg's study also lends credence to this hypothesis.

[15] Donald L. Nelson (ed.), Toward Policies for Balanced Growth, in which Paarlberg wrote the "Foreword", (Washington D.C.: Graduate School Press, U.S. Dept. of Agriculture, 1971). The quotation is on page vii.

[16] James L. Sundquist, "Where shall they live?", The Public Interest, Winter 1970, pp. 94-5.

In summary, there is a consensus on ends and goals--the preservation of the family farm and the ideological necessity of grass roots democracy. There also remain deep and bitter conflicts, to be sure, but these are based on differing views as to the legitimacy and efficacy of the means to be used in order both to attain and retain these ideological goals. Operationally, however, the ideology of the family farm is meaningful primarily to the well-capitalized, managerially-efficient farmer, and the belief in grass roots democracy is essentially an ideological facade.

2. Pluralism, Economic Self-Interest and Political Freedom (The Madison-Calhoun Myth)

This leads us to a modernization of the second ideology: that is, Madison's theory of the pluralistic Republic and Calhoun's doctrine of the concurrent majority. Calhoun's doctrine, as we stated earlier, had a strong sectional, economic and racial bias. To some extent these are still evident in American politics. However, our position is that the Madisonian-Calhounian ideology has now been institutionalized so that it functions in terms of "whirlpools of power" (Ernest Griffith's phrase)[17] or "power clusters" (Daniel Ogden's concept)[18] and results in governments by minorities as these minority power clusters concentrate and direct their strength toward the advancement or protection of some particular issue which is of special importance to them.

Political scientists literally adore the quarrels which have been and still are endangered over the "goodness" and the "badness" of Madison's pluralism and Calhoun's concurrent majority.[19] In our judgment, the "government by minorities of power clusters" thesis does prevail empirically, and in valuational terms it works quite effectively for upper class and middle class America. However, it is only marginally functional--if not dysfunctional--for low-income Americans. Why so? One important reason is that effectiveness of the doctrine in action depends on the ability of those whose interests are affected to institutionalize their potential political power into effective interest groups. Functionally, low-income Americans are terribly difficult to organize and to keep organized. This proposition leads to several socio-pyschological and economic questions but we will have to leave them aside.[20] Rather we will simply assert: the poor are poorly organized politically, either in spite of or because of their economic and social conditions.

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[17] Ernest S. Griffith, Congress, Its Contemporary Role (New York: New York University Press, 3rd ed., 1961 pp. 50-51.

[18] Daniel M. Ogden, Jr., "Politics and Policy in Outdoor Recreation," in Proceedings of a Public Land Law Review Conference, entitled: Public Lands and the People (Ames: Iowa State University, 1970), pp. 32-39.

[19] For an excellent presentation of Calhoun's doctrine in modern terms, see Peter F. Drucker, Men, Ideas and Politics (New York: Harper and Row, 1971), Chapter 5--"Calhoun's Pluralism", pp. 105-26. A well-presented criticism of Madison's pluralism is found in James Burns', The Deadlock of Democracy, (Englewood Cliffs: Prentice-Hall, Inc., 1963); an excellent review of the controversy, with extensive bibliography, is contained in Evron M. Kirkpatrick, "Toward a More Responsible Two-Party System: Science, Policy Science, or Pseudo-Science", APSR, Dec. 1971, pp. 965-91.

In a recent study, for example, it was shown that while 69% of persons with incomes under $2,000 belonged to no voluntary organizations, only 45% of individuals with $8,000 income and over held no organization memberships. Similarly, according to these authors, 67% of persons with 8 years of formal education or less were not members of any voluntary organization but among college graduates only 37% reported no voluntary organizational affiliation.[21] Although these findings indicate a slight relative increase in voluntary organizational memberships by persons in the lower-socioeconomic levels, as compared to the results of some earlier research, the authors nonetheless concluded: "Inspection of the findings reveals that the substantial relationship between membership and higher status, documented in the earlier study, still holds."[22]

Moreover, there are substantial numbers of low-income persons living in non-metropolitan America. In 1969, 51.5 percent of the Blacks living in such areas had incomes below the poverty level (that is $3,743 for a non-farm family of four and $3,195 for a farm family of four). Also, more whites were poor in non-metropolitan areas--8,468,000 to 8,200,000.

And this analysis does not pertain simply to the economic and social haves versus the have-nots. As Daniel Sturt, Director of the Farm Labor and Rural Manpower Service in the U.S. Department of Labor, has observed:

> "Rural people need an advocate. Some 30 million of the total U.S. work-force of 80 million people live in rural areas. Farming is the chief occupation of only a small part of the people living in rural America today. Although it is important to the rural economy, the fate of agriculture will not determine the fate of rural areas."[23]

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[20] For a useful discussion of the complex causes and constraints of individual political participation see: Lester W. Milbrath, Political Participation (Chicago: Rand McNally & Co., 1965).

[21] Charles R. Wright and Herbert H. Hyman, "Trends in Voluntary Association Memberships of American Adults: Replication Based on Secondary Analysis of National Sample Surveys", American Sociological Review, April 1971, p. 198.

[22] *Ibid*. For the previous data see: Wright & Hyman, "Voluntary Association Memberships of American Adults: Evidence From National Sample Surveys", American Sociological Review, June 1958, pp. 284-294.

[23] Nelson, *op. cit.*, p. 72.

There are signs that this political neglect of the "poor" in rural America is being alleviated. Lynn Daft notes that "the current catalogue of federal assistance programs has over 1,000 separate program entries."[24] Many, perhaps most, of these programs at least authorize various types of assistance to rural America. In his seminar paper, Don Hadwiger takes a more thorough look at recent trends. He is closely involved in an organization named the National Rural Housing Alliance, which is attempting to assist rural, low-income citizens to put into operation at least a few of these 1,000-plus programs. Recently, the U.S. House of Representatives passed the Rural Development Act of 1971, "...which is intended to raise the quality of rural life by pumping millions of dollars into rural areas to stem the flow of people to the cities."[25] There is some considerable question as to how seriously the pertinent Congressional Committees were willing to consider President Nixon's rural development message on February 1, however, and there seems to be a fair amount of doubt as to achievements which might be anticipated if the House bill should become law.[26]

Nevertheless, it does seem that Congress has finally become concerned about the social status and conditions of rural America. In 1967, Secretary Freeman spoke against what he termed "the whiplash of economic necessity which today relentlessly drives desperate people into our huge cities and contended that it must be lifted from the bleeding back of rural America."[27] At that time, according to Sundquist, the Congressional agriculture committees "...concern for rural America extended to the price of agricultural commodities and the location of Department of Agriculture research stations, but not much further."[28] This lack of concern and involvement seems to be diminishing, but in terms of policy output effectiveness 18.6 percent of the farm families were still below the poverty level in 1970 as compared to 17.4 percent in 1969. The doctrine of the concurrent majority continues to be decidely non-functional in its application to low-income Americans.

The Elite and Energetic Government, Modernized (The Hamiltonian Myth)

Accurate generalizations are difficult to formulate relative to the attempts by the Hamiltonians during and since the New Deal to modernize this ideological position. The concepts of elitism and energetic government continues to be viewed as an anathema in rural America. The myth of the superior quality of life in rural America was exposed at least as long ago as the findings of the Country Life Commission in 1909; most social and economic indicators seem to prove that the myth continues to be highly fallible. Moreover, research in the social sciences has not been particularly beneficial to the interests of most rural residents. The agricultural economists have long been developing models that when made operational, accelerate the exodus to the city. Sociologists seem to have shed many of their earlier rural fundamentalist predispositions and their leadership studies have been valuable for the study of who gets what, when and how. Perhaps they should now become more value-oriented and prescriptive. Political scientists tend largely to ignore rural America other than to complain periodically about the inefficiency and ineffectiveness of rural government--and county government, in particular. Their analyses and criticisms have indicated only a minor concern with programmatic outputs and alternative policy improvements.

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[24] Lynn M. Daft, "Public Policies for Rural America: Legacies or Leading Edges?", American Journal of Agricultural Economics, May 1971, p. 251.

[25] Des Moines Register, February 25, 1972, p. 1.

[26] Farmers Union Herald, February 7, 1972, pp. 3 & 9; The NFO Reporter, February 1972, p. 5. Also, see Congressional Quarterly Weekly Report, February 12, 1972, pp. 283-286; February 26, 1972, 446-7; March 4, 1972, pp. 475-7.

[27] Sundquist, *op. cit.*, pp. 94-5.

[28] *Ibid.*, p. 95.

Almost 10 years ago, Karl Fox provided us with a valuable insight into one basic difficulty: "The major problem of rural society in the U.S. is our institutionalized belief that a rural society exists and can be manipulated successfully apart from society as a whole."[29] We are of the opinion, however, that he was only half-right; there is a belief that a rural society exists but no dominant groups in rural America seem to believe that it can be manipulated, at least in a systematic and coherent manner in the interests of the rural community.

Recently, the USDA's Economic Research Service completed a study for the U.S. Senate Committee on Government Operations relative to the geographic distribution of Federal spending, by counties, throughout the United States.[30] The counties were divided according to a metropolitan-urban:rural classification, with those of urban orientation ranging from "highly urban" counties to "sparsely settled rural with no urban population." Consequently, the findings need to be analysed in more depth than we will indicate in order to determine their applicability to what is more conventionally viewed as rural America. Nevertheless, the study indicated, as examples: Per capita Federal welfare and health service payments were roughly four times greater in the metropolitan counties. Federal payments for manpower training and development were three times greater. Although non-metropolitan areas account for about half of the children (ages 6-17) in "poverty level" families, ADC payments per capita were slightly over 4 times higher in metropolitan areas. Federal payments for the Headstart and Headstart Follow Through programs were nearly three times greater for the metropolitan areas.

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[29] Karl A. Fox, "The Major Problem of Rural Society," in Our Rural Problems in Their Natural Setting (Ames: ISU Press, 1962), p. 10, cited in Daft, op. cit., p. 51. The statement was underlined in the text.

[30] See footnote 8. This is Part 3 of that series; it was published December 1971, and is some 66 pages in length.

The Hamiltonian elite in rural America seems to be inadequately concerned about the need for energetic government. In truth, many--probably most--of the federal spending programs operational in rural America are quite likely spillovers from urban programs. The sole area in which Federal spending in rural America is notably superior (at least higher in amount per capita) than metropolitan America is in the area of farm subsidy programs. Elitist farmers seem to show no reluctance toward Federal spending programs if their particular economic interests are enhanced.

There is, we are arguing, no such thing as an operational ideology concerning rural development. The historic ideologies which we have surveyed are still functional in limited ways and serve particular rural interests, but there is no ideology that encompasses the rural community as such.

What Should Be Done?

At this point we may become overly presumptuous, but we ask you to remember that those of us officed in the east side of the third floor of Beardshear Hall have little power over and only marginal responsibilities for the activities and operations of the Iowa Agriculture and Home Economics Experiment Station and the Center for Agricultural and Rural Development (CARD). Hopefully, therefore, we may be forgiven for what may be viewed as an excessive burst of audacity. Albeit, we--the authors of this paper--have agreed that the propositions which follow should at least be advanced if for no other reason than they need to be challenged.

First, there is a serious question as to whether the station should not seriously examine its own ideological posture. To switch our definitions a bit, "an ideology is a belief system that is internally consistent and consciously held."[31] It could be argued, of course, that the station has no ideology, and should have none. On the other hand, it might be well worth our time and trouble, blood stains and all, to examine that proposition and perhaps then hammer out an ideology. If we have no central, social, and political vision which is at least as large as the state of Iowa we may find ourselves concerned with research projects that are valuable largely, or at least in part, because of their concern with interest group preferences and disciplinary biases.

Which leads us to a second inquiry--the structure and responsibilities of the station itself. There seems to be just as powerful a case for an Iowa State Agriculture and Community Development Institute as there was for a reorganized University Extension. If the rural-urban dichotomy is false,--normatively, empirically and programmatically--what intellectual (as contrasted to political) reasons are there for its perpetuation?

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[31] Barnes, op. cit., p. 514. The underlining is in the text.

In the third instance, we humbly inquire as to whether there should not be (1) substantially more funds allocated to social science research, and (2) whether these research projects should not be--in nearly every instance--a team project.[32] And, to assure you that we have scattered all semblance of caution to the wind, we suggest that a humanist (philosopher, historian or literateur) should either be assigned to each project or contracted to evaluate it.

Our brief for this third proposition is based on the following line of reasoning. Federal assistance programs have proliferated to such an extent within the last two decades that social science researchers are not prepared, in any systematic way, to account for what is happening within these programs, even descriptively. To gain that initiative we must institutionalize and coordinate team research procedures and projects. That is, we are not effectively monitoring the hundreds (who knows how many?) of Federal Assistance programs which are ostensibly directed toward rural development; we cannot therefore evaluate perceptively the output of these programs. Consequently, our counsel and recommendations to state and local governments, including quasi-public corporations, have to be tentative and selective, and probably offered with timidity and many reservations.

Finally, it would be terribly hazardous for us to engage in any planning projects, assuming that these should be the ultimate role of the experiment station. This criticism may seem far-fetched in that we could be accused of setting up an illegitimate function (i.e., planning) just in order to knock over our straw man. However, this planning function is what W.C. Motes was discussing in his paper on rural development at a recent meeting of the Rural Sociological Society.[33] If the Director of the USDA-ERS Economic Development Division can be so bold, why should academicians, who pride themselves upon their intellectual freedom to assault all "truths," be hesitant and timid?[34] In fact, a few of the papers presented at this seminar have come close to stating this proposition. In the challenging and often exciting introductory paper, Earl Heady referred to "means to erase inequities for declining communities," and thereupon advised that "...solutions must be through newly initiated and more rapidly implemented public action programs in realms of citizen knowledge, enabling legislation, planning mechanisms, fiscal arrangements and cost-sharing or subsidization of new community structures and facilities." (pp. 21-22).

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[32] See National Academy of Sciences, The Quality of Rural Living: Proceedings of a Workshop (Washington, D.C.: National Academy of Sciences, 1971), pp. 140-141.

[33] W.C. Motes, "Rural Development: Economic Criteria for Assessment of of Outcome and For Research Inputs", reprinted in U.S. Senate, Committee on Agriculture and Forestry, Subcommittee on Rural Development, Hearings--Rural Development, Part IV (Washington, D.C.: Govt. Printing Office, 1971), pp. 479-82.

[34] Very recently an editorial in the Wall Street Journal concluded: "The problem often in rural development is that the planners, federal, state and local, don't plan very wisely." (This editorial was reprinted in the Christian Science Monitor, April 24, 1972, p. 12.

To be even a bit more "far out", someone has to plan in detail for the development of "Texas New Town".[35] Perhaps the "Iowa New Town" should be the responsibility of the reorganized experiment station. Recently, Governor Ray, while attending a conference on the long-range development goals of Northwest Iowa, indicated his belief that the state's small towns can be preserved. However, in his view only "foresight, good management and planning as we look into the future will make the kind of state we want."[36]

We cannot escape this world of values. Presumably all of us would accept the proposition in the 1970 report of the President's Task Force on Rural Development, entitled "A New Life for the Country", which states: "Obstacles based on race, creed, color or origin will...have to be eliminated if we want to bring a better quality of life to rural America and preserve the kind of nation we care about."[37]

Now it may be argued, and surely will be, that we are trying to push the university and its educational leaders into a political role which they cannot, and should not, assume. We do not, however, think that this kind of a charge is valid. Deans of Colleges of Agriculture, directors (and associate directors) of agriculture experiment stations, and directors of extension services have been and are, by necessity, a type of politician. The means that they must develop and use to pursue the public goals which, to at least a significant extent they have formulated and have fought for in the legislative corridors, are often and decidely political. These educational politicians know better than we do that the present condition and future prosperity of their educational institutions depend on their capacity to calculate accurately the principal elements in the prevailing power structures, and then on their ability to influence those structures to do what "ought" to be done. One of their major difficulties of the moment, and it will probably continue to perplex them for years to come, is that new ideologies, new group interests, new interpretations of ancient values, must enter into their calculations. Youth, the aged, the environmentalists, and racial minorities, among others, are demanding to be heard.

Sundquist provides some insight into this political problem: "The leadership for a rural development coalition...will have to come from ⌈the major⌉ cities. Groups with names like the Urban Coalition, the Urban Institute, and the Urban League will have to assume the burden about rural America, because there is no rural coalition, no rural institute, no rural league."[38] On the other hand, Sundquist may be speaking more to the political realities to be found in a metropolitan state and overlooking those realities which prevail in Iowa. Paarlberg has observed that "if we are to strike out with a strong effort at a better rural-urban balance it will be necessary to reorient the present power elite, both town and country, or to lift up some new political force to challenge the old."[39] The cynic might growl: "In Iowa, never." The optimist looks for the signs of change and the threads of hope; after all, Mrs. Haven Smith, Chairman of the American Farm Bureau Federation's Women's Committee, was also Chairman of the President's Task Force on Rural Development. We have been impressed, too, with at least some of the 18 recommendations issued in 1969 by a task force of the U.S. Chamber of Commerce.[40]

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[35] Des Moines Register, February 29, 1972, p. 9.

[36] Ibid., April 21, 1972, p. 4.

[37] President's Task Force on Rural Development, A New Life for the Country (Washington, D.C.: Government Printing Office, March 1970), p. 26.

[38] Sundquist, op. cit., p. 97.

Nevertheless, we feel compelled to close on a note of caution. Ideologies, even rural development ideologies, tend distinctly to move toward the pitfall of promising too much. Daniel Moynihan, in his delightful study entitled, Maximum Feasible Misunderstanding, has pointed out the very real dangers that are involved when social scientists promise more than can be delivered, when our claims exceed by some considerably amount the certainties of our proclaimed knowledge.[41] As much as the two of us dislike this incessant refrain: "there is yet much research which needs to be done." Rural Development is not exactly a new ideal just discovered last year. President Eisenhower instituted the first specific Federal program in rural development in 1954 proclaiming in his message to Congress that "we must open wider the doors of opportunity in rural America for the good of our country and all our people." We are still muddling through, trying to carry out that assignment.

The prudence embodied in the advice offered by D. Gale Johnson is impressive: "...I would like to caution against any program or set of programs that promise more than there is any possibility of achieving. We are most unlikely to either create Gardens of Eden in the rural countryside or greatly relieve the congestion in the metropolitan areas."[42] Nevertheless, even if we accept Johnson's "...rather modest goal of influencing the location distribution of approximately 10 percent of our population growth over the next decade...",[43] there is still very much to be done. We will need to inquire more humanely and assiduously than ever before as to who is to get what, when, how and why.

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[39] Nelson (ed.), op. cit., p. vii.

[40] Chamber of Commerce of the United States--Task Force on Economic Growth and Opportunity, Rural Poverty and Regional Progress in an Urban Society (Washington, D.C.: Chamber of Commerce of the U.S. of America, 1969) pp. 4-12.

[41] Daniel Moynihan, Maximum Feasible Misunderstanding (New York: Free Press, 1969), especially Chapter 8, pp. 167-203.

[42] Nelson, op. cit., p. 28.

[43] Ibid

We close with one last quote from that sturdy and perceptive conservative, Don Paarlberg: "...we shall have to talk, to educate, to persuade, to convert, to coerce, to experiment, and to demonstrate, to wear down, to outlast, and eventually to win."[44]

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[44] Ibid., p. vii.

DELINEATION OF IOWA COMMUNITIES WITH MAJOR ECONOMIC ATTACHMENT TO AGRICULTURE

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"...the changing structure of agricultural production has significantly altered the flows of money in rural towns. More money flows to sources in urban areas and less remains to provide jobs in rural towns. As mechanization of agriculture increased and as capital intensification occurred, rural towns have experienced a slow draw-down of economic vitality."

"...in terms of current purchasing power, the dollar magnitude available to Iowa's rural communities from agriculture is probably not any larger today than it was in 1950, and it may be considerably smaller."

"Understanding the importance of agriculture as a major source of demand for future sales and services can lead to more realistic community planning, investments in business operations, and greater potential for many small communities in Iowa."

CURRENT RURAL development discussions focus heavily on the potential for developing more local industry in rural Iowa towns. There are many communities where action groups are currently inviting one or more industrial firms to locate within the community.

There are many reasons for this widespread interest, but one is of major importance: Communities are seeking a way to reduce the heavy dependence on agriculture as the major source of business activity. The establishment of an industry that operates independently of fluctuations in agricultural activity because of government programs, weather variability, market fluctuations, or changing buying habits of farm operators and their families) can substantially reduce economic dependence of businesses in the community on the farm sector. Many communities are now investing heavily in feasibility studies, industrial parks and bond issues for these purposes. To assist Iowa communities in planning for the future and to reduce the propensity for malinvestment and misuse of available resources, we have compiled information to improve our understanding of economic interaction of different sized towns with the agricultural sector. This paper is an initial attempt to explain the relationships between agriculture and rural towns in Iowa. We recognize, however, that a more penetrating analysis is needed before final conclusions or recommendations can be made.

Interrelationships of Farms and Rural Communities

A set of economic relationships exist between rural towns and the surrounding farms. These relationships involve flows of money from purchases of goods and services for both family living and farm production, and levels of employment. And these relationships differ for towns whose main function is to service the needs of farming and for towns which have production enterprises independent of the agricultural sector. In the latter towns, non-farm production enterprises create employment, the employment creates income, and income not saved is used to purchase goods and services for family living. But in towns without nonfarm production enterprises, the economic relationships are reversed. The towns exist to service agriculture and, consequently, it is the purchases by farming enterprises that create the flows of money through the town. These money flows provide the incomes by which town families live and by which they buy the items to improve their living standard. If money flows increase in a rural town, the town population generally will increase as the number of families necessary to provide goods and services increases. If money flows decline, the number of families needed to provide goods and services also declines.

The basic questions are: Where do money flows originate in rural towns? Why have these flows changed over time: And how dependent are different sized towns on the agricultural sector today?

Sources of money flows

Income and employment in rural communities come primarily from two major sources. One is agriculture, where commodities are produced and sold. The second is agribusiness--groups which sell farmers' inputs, such as fertilizer and machinery, or purchase farm products to be shipped to processors.

The amount farmers produce, the volume agribusinesses handle and the price associated with each commodity largely determine the money flows of a rural town.

A third activity creating a flow of money in a rural town is the provision of consumer goods and services by local businesses. While smaller in size of sales, these businesses provide items for family living: the sale and servicing of automobiles, television sets and other household appliances. The quantity of items or services sold, along with prices charged, determine total money flows resulting from consumer goods and service businesses.

To visually describe the relationship between these different activities, we created Figure 1. It shows how commodities and income flow through a rural community and the set of interrelationships that exist among the three major economic groups--agricultural producers, agribusinesses, and consumer goods and service supplying businesses. Firms that supply inputs to farmers purchase these items (fertilizer, machinery, fuel, etc.) from manufacturers generally outside the rural community. These purchases from urban manufacturers result in money flowing out of the rural community.

In reverse manner, marketing agribusinesses purchase commodities (corn, soybeans, livestock, etc.) from agricultural producers and sell them to processors generally located outside the rural community. These sales result in money flowing into the rural community.

The size of the two money flows depends upon the quantity of farm products sold (or inputs purchased) and prices received (or charged). The difference between these income flows--income flowing into the rural community via marketing processors and income flowing out of the rural community via input supplying agribusinesses--is the amount of income the rural community retains.

Retained income is available to be spent in the consumer goods and service supplying businesses, or it can be saved. If saved, it may remain in the community unless it is invested in the national stock markets or in government bonds. If it is used to buy consumer goods (automobiles, washers, dryers, etc.), these items are purchased from manufacturers outside the rural community. Such purchases also result in income flowing out of the rural community.

The number and size of businesses supplying services and consumer goods in a rural community are largely determined by (a) the amount of income that the community retains after it purchases the inputs necessary to carry on agricultural production and (b) the amount of income saved.

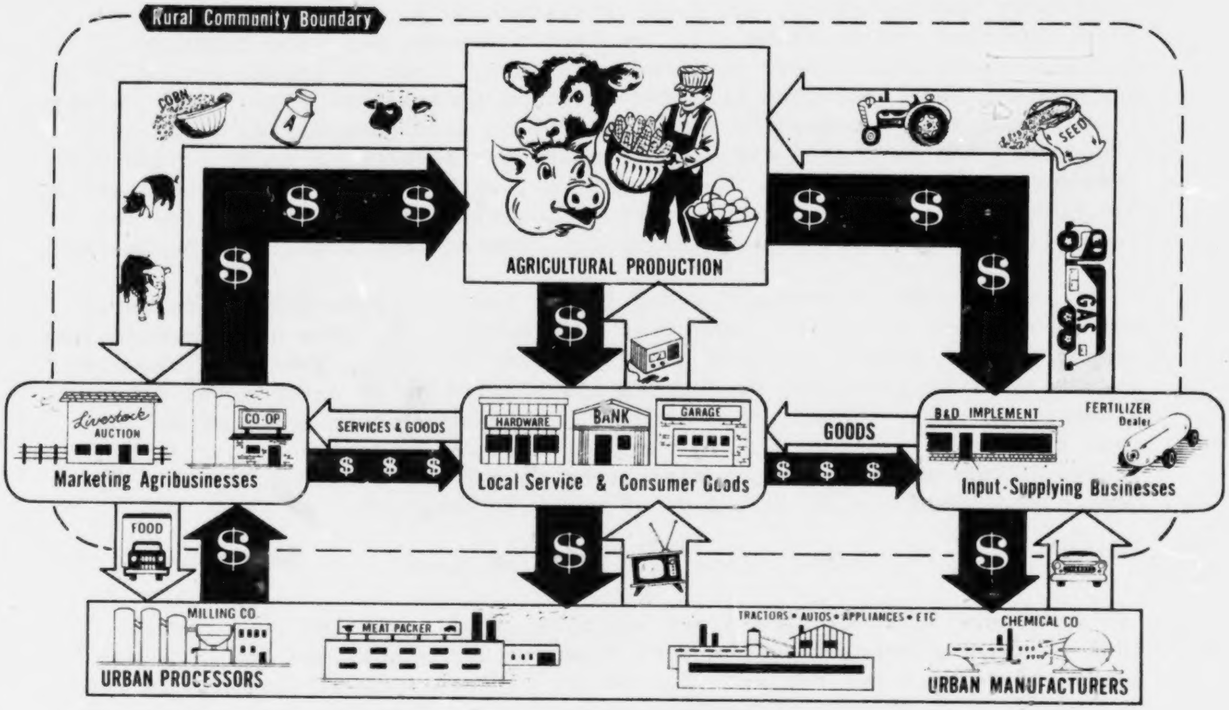
Rural Community Boundary
CORN
A
AGRICULTURAL PRODUCTION
SEED
GAS
Livestock AUCTION
CO-OP
Marketing Agribusinesses
SERVICES & GOODS
HARDWARE
BANK
GARAGE
Local Service & Consumer Goods
GOODS
B&D IMPLEMENT
FERTILIZER Dealer
Input-Supplying Businesses
FOOD
MILLING CO.
URBAN PROCESSORS
MEAT PACKER
TRACTORS • AUTOS • APPLIANCES • ETC
CHEMICAL CO
URBAN MANUFACTURERS
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FIGURE 1 Economic Flow Chart of a Typical Rural Community

The amount of purchased inputs used in agricultural production is particularly important to a rural town because these inputs must be purchased from urban manufacturers, and they constitute such a large proportion of total business transactions. In the last three decades, the quantity of urban-produced inputs have declined. In turn, flows of income out of local communities have increased as these input purchases have risen. For example, if a decade ago, a community sold $100,000 of farm commodities to outside processors and purchased $50,000 of inputs for farming, a total of $50,000 remained in the community. Today, however, with the same $100,000 of sales, $75,000 may be spent to purchase farm production inputs from outside the community. Only $25,000 now remains for transactions with local businesses.

Today, some 75 percent of all inputs used in producing agricultural commodities are purchased from off-the-farm--that is, from urban manufacturers--compared to 50 percent in 1940 and 25 percent in 1910. Thus, the changing structure of agricultural production has significantly altered the flows of money in rural towns. More money flows to sources in urban areas and less remains to provide jobs in rural towns. As mechanization of agriculture increased and as capital intensification in general occurred, rural towns have experienced a slow draw-down of economic vitality.

Economic Structure of Rural Towns

We have defined three broad business groups existing in a rural town--the input suppliers, the farm product purchasers, and the consumer goods and service businesses. The number of each type of business in any particular town will be determined by several factors, including those previously outlined, the size of the town, its proximity to other towns or cities, the mode of transportation and quality of highways available, and other factors.

To improve our understanding of the structural characteristics of Iowa towns and to determine the dependence on agriculture, we studied a random sample of towns to determine which kinds of businesses are located in different sized towns. Specifically, we took a random sample of Iowa towns which had first been arrayed according to size, and after securing copies of their telephone directories, counted the number of each type of business. These businesses were placed into a classification framework based on the U.S. Census Bureau's Standard Industrial Classification framework. The resulting business structure for different sized Iowa towns is shown in Figure 2.

Starting with the smallest town, defined here as a village (0-249 population), fertilizer sales, feed preparation, building and hardware stores, gas stations, general repair shops, and farm construction emerge as the primary type of business available. In general, a village was found to average about seven different types of business, with agriculturally oriented establishments making up the majority. Even other establishments listed--educational, non-profit organizations such as churches, and personal services of barbers, hair dressers, and so forth--are dependent on farm families for economic support.

		village 0 - 249 population	primary town 250 - 999 population	secondary town 1,000 - 2,499 population	full service town 2,500 - 9,999 population	urban center 10,000 - 50,000 population
AGRICULTURE	Fertilizer	●	●	●●	●●●	●●●●
	Feed Preparation	●	●●	●●	●●●	●●●●
	Veterinary		●	●	●●	●●●
	Machinery		●	●●	●●●	●●●
	Consultants		●	●	●●●	●●●
	Farm Services			●	●●	●●●
SALES RELATED	Wholesale					●●●
	Bldg & hardware	●	●	●●●	●●●●●	●●●●●●
	General retail			●	●●●●	●●●●●
	Food stores	●	●●	●●●	●●●●	●●●●●●
	Automotive		●	●●●	●●●●●	●●●●●●●
	Gas station	●	●●	●●●	●●●●●	●●●●●●●
	Clothing			●●	●●●●●	●●●●●●
	Furniture			●	●●●●●	●●●●●●●
	Eating & drinking	●	●●●	●●●	●●●●●	●●●●●●●
	Drug store		●●	●●●	●●●●●●	●●●●●●●●
SERVICE RELATED	Hotel		●	●	●●●●	●●●●●●
	Personal	●	●●●	●●●●	●●●●●●	●●●●●●●●●
	Printing		●	●●	●●●●●	●●●●●●●
	Automotive		●●	●●	●●●●●	●●●●●●
	General repair	●	●	●●●	●●●●	●●●●●
	Movies				●●	●●●
	Recreation			●	●●	●●●●
	Medical		●	●●●	●●●●●	●●●●●●●
	Legal			●	●●●●	●●●●●
	Education	●	●●	●●	●●●●	●●●●●●
	Nonprofit org.	●	●●●	●●●	●●●●●	●●●●●●●
	Engineering				●●●	●●●●●
INDUSTRIAL	Construction	●	●●	●●●	●●●●●	●●●●●●●
	Manufacturing		●	●●	●●●●●	●●●●●
	Transportation	●	●●	●●●	●●●●	●●●●●●
	Communication		●	●	●●●	●●●●
	Electrical				●	●
	Gas & Fuel			●	●●	●●
	Sanitation				●	●●●
FINANCE	Banking		●	●	●●	●●●
	Credit agency				●●●●	●●●●●
	Broker					●●●●
	Insurance		●●	●●●	●●●●●	●●●●●●●
	Real estate			●	●●●●	●●●●●●
GOVT	Federal		●	●●●	●●●	●●●●●
	State		●	●	●●●	●●●●
	Local	●	●	●●●	●●●	●●●●

CODE			
●	is 0 to 1 establishments	●●●●●	is 10 to 20 establishments
●●	is 1 to 2 establishments	●●●●●●	is 20 to 40 establishments
●●●	is 3 to 5 establishments	●●●●●●●	is 40 to 65 establishments
●●●●	is 5 to 10 establishments	●●●●●●●●	is 65 to 99 establishments

Figure 2. Economic structure of alternative sized towns based on a random sample of Iowa towns classified according to the Standard Classification Index (U.S. Census Bureau).

The second town size surveyed was defined as a primary town with population falling between 250 and 999 people. This size town had all the same types of establishments available in villages, but more than one establishment existed for some types. There also were several additional types of establishments. Veterinary services, machinery dealers, a new automobile dealer, a bank and an insurance salesman were a few of the additional services. Of course, not every town surveyed had each of the businesses cited, but the average for the evaluated towns was high enough to justify their inclusion. Again, a strong attachment is evident between agriculture and the input-supplying firms that form a majority of the establishments.

The third town size, defined as a secondary town with from 1,000 to 2,499 population, has an even broader set of business establishments and a larger number of each type than existed in the village or primary town. A full set of agriculturally related businesses, including farm consultants and farm service stores for single stop shopping, are generally found in this size town. A larger number and more complete array of sales-related and service-related establishments are also found. A real estate office is generally available, which is unusual in the smaller towns. Medical services are generally supplied by at least three doctors, compared to one in the primary town and almost none in villages. A heavy dependence on agriculture is still true although construction, manufacturing, and transportation (trucking) firms are more numerous.

The final two town sizes evaluated--the full-service town (2,500 to 9,999 population) and the urban center (10,000 to 50,000 population)--were found to generally provide a full range of business and social establishments. The major difference is the number of each type of establishment and the diversity of business type within each index category. Thus, for example, the full-service town probably would not have a leather goods apparel store while the urban center might have such an establishment as well as other wearing apparel stores. One specialized service offered in the urban center was financial transactions of brokerage firms, a service which was not generally available in the full service town. Other examples could readily be given.

Caution must be exercised in interpreting these data. Any specific town may differ considerably from the averages given here. Some will provide more or less of each kind of good or service. A town of 9,500 persons located 50 miles from an urban center could have a brokerage firm available if the trade area was sufficient to support it.

Dependence of Alternate Sized Towns on Agriculture

After establishing the economic structure of different sized Iowa towns, we turned our attention to measuring the degree to which different sized towns are dependent on agriculture. Ideally, the measure that we sought was what proportion of total business sales in each individual size town was due to agricultural sources. But such a measure is not available.

Data on agricultural input purchases provide no indication of source of purchase. Also, data on business sales are not broken down by utilizing sector. Thus, the only possibility of gathering needed explicit data was to make survey of individual towns or to utilize some form of abstract economic model.

Lacking the economic model, available data for development of the ideal measure and time and resources for a survey, we improvised a measure which gives estimates of dependence of alternative sized Iowa towns on agricultural input purchases. To develop this measure, we divided the 99 counties in Iowa into groups according to the size of the largest town in the county. Thus, for example, the largest town in Allamakee County was between 1,000 and 2,499 population size and this formed one size group of counties. Other counties were divided into other size categories as shown in Table 1.

Given this division of counties into groups, it was possible to develop a measure of dependence. Data by counties are abundant for both total business sales and for agricultural purchases of production inputs. For such a measure, data for each type of information were aggregated for counties of each town size. Percentages were then calculated of the proportion that purchases of production inputs are of total business transactions. The results are reported in Table 1. Counties with maximum-sized towns falling between 1,000 and 2,499 had agricultural purchases equal to 42.2 percent of total gross business sales. Counties with towns between 2,500 and 5,000 similarly had 36.2 percent of sales from agriculture.

While we would stress the indirect nature by which we made this set of calculations, the degree of dependence that is shown for the smallest size town and the decreasing proportion of gross sales made up of purchases by agriculture sources does mesh well with our normative expectations. Statewide, of course, there is no question about the accuracy of the 15.8 percent of total gross sales explained by agricultural purchases. Within any individual category, however, the figures must be highly qualified since county lines do not prevent agricultural producers from buying in another county. But it is also not obvious that any evident bias arises because of this option. We do present these results in a most qualified manner, however, and recognize and accept the need for further refinement. These data do suggest that for counties with only towns under 2,500 population, the tie to agriculture is indeed strong. If we had data available on estimated farm family purchases and were to add these to the totals for production inputs, the results would be even more striking.

The results indicate the level of dependence of rural towns on agriculture in Iowa. In themselves, these data do not trace out a pessimistic future for such towns. It would be quite possible for towns that are heavily dependent on agriculture for business transactions to have an optimistic future if agricultural output and hence, input purchases were growing at a rapid rate. The reverse is largely true, of course. Agricultural inputs are slowly growing, with an actual cutback in those

Table 1. Estimated proportion of business transactions that originate in agriculture for purchase of farm production inputs in Iowa communities.

Counties with maximum size town of:[a]	Number of counties	Gross sales[b]	Agriculture expenditure[c]	Percentage due to agriculture
1,000- 2,499	19	695,238,887	293,525,424	42.2
2,500- 4,999	30	1,526,795,326	652,055,659	36.2
5,000- 9,999	29	2,195,197,282	603,046,017	27.5
10,000-49,999	14	2,621,394,165	297,982,134	11.4
50,000 and up	7	5,866,319,050	206,117,451	3.5
State of Iowa	99	12,998,801,713	2,052,726,685	15.8

[a] Data for the different town sizes are derived by grouping together counties in Iowa according to which category the largest town in the county falls. Then the gross business sales and agriculture expenditures of these counties are summed.

[b] Source: Retail Sales & Use Tax, Annual Report, State of Iowa, Department of Revenue, Fiscal Year Ending June 30, 1970. Sum of gross sales of the five size categories does not add up to state total because of the exclusion of nonresident sales in county figures.

[c] Source: 1969 Census of Agriculture, U. S. Department of Commerce, Bureau of the Census, August, 1971. Excludes costs for livestock and poultry feed, hired farm labor, contract labor, machine hire and customwork. These items are not included in retail sales and use tax reports.

years when government farm programs substantially reduce crop production. Furthermore, the trend toward ever larger amounts of inputs coming from larger towns is causing towns of under 2,500 population to feel a slow loss of agricultural sales. This, added to the slow downtrend in numbers of farm families and hence to consumer goods sales, leaves small Iowa towns with lessening economic vitality. Empty stores are clear evidence that as much overcapacity exists within small towns as exists outside the town in farm production. Overcapacity depresses earning on resources unless it is offset by programs to create artificial scarcity such as those under federal land retirement programs. Only in this instance can the value of the resources (land) continue to rise in the face of excess capacity.

Of course, many small towns in Iowa are not entirely dependent on agriculture. Some have been successful in establishing small manufacturing or other types of production enterprises. Many of these have created additional employment and have brought a new measure of wealth to the community. Of interest to the state is whether these shifts have been occuring at more rapid rates in smaller towns than in larger communities. To better understand these trends, we applied the same county-town framework previously explained to employment levels for 1959 and 1969. The counties were again grouped according to the maximum sized town, and total business employment for both 1959 and 1969 was summed. The absolute change in business employment over this period was then determined and the percent change calculated. These data are presented in Table 2.

All county groups surveyed were found to have increased levels of employment for the period 1959-1969. Counties with maximum sized towns between 1,000 and 2,499 population increased business employment by 26.7 percent. Counties with towns between 2,500 and 5,000 maximum population, increased business employment by 32.6 percent and other county groups by larger or smaller amounts. In fact, no large differences or simple trend was found in percentage increases in business employment for the groupings identified.

If we look at actual changes in employment, however, the differences are more substantial. In terms of absolute change, a positive relationship exists between increases in employment and counties with larger towns or cities. While the 19 counties with no town over 2,500 persons increased business employment between 1959 and 1969 by 5,295 employees, a 26.7 percent increase, the 7 counties with towns over 50,000 persons increased business employment by 70,675 employees, a 27.2 percent increase. While percentage increases were nearly the same, the base from which each started resulted in a much larger absolute increase for the counties with large cities.

These results clearly indicate that on-going trends in employment expansion are leading to a heavy concentration of people and jobs in the large urban centers of Iowa. A reversal of this concentration will require a set of substantive economic policies that will have to offset normal agglomeration tendencies inherent in urban location and settlement patterns.

Table 2. Level of business employment in Iowa for 1959, 1969 and resulting change by counties with alternative sized towns

Counties with Maximum size Town of: a/	Total Business Employment 1959	Total Business Employment 1969	Employment Change 1959-1969	Percentage Change 1959-1969
1,000- 2,499	19,803	25,098	5,295	26.7
2,500- 4,999	41,690	55,279	13,589	32.6
5,000- 9,999	71,235	91,364	20,129	28.3
10,000-49,999	112,004	157,061	45,057	40.2
50,000 and above	259,754	330,428	70,674	27.2

Source: U.S. Bureau of the Census, County Business Patterns, GPO, Washington, D.C. 1959 and 1969.

a/ Data for the different town sizes are derived by grouping together counties in Iowa according to which category the largest town in the county falls. Then the gross business sales and agricultural expenditures of these counties are summed. The number of counties per group is the same as for Table 1.

Implied is a substantial shift in the competitive positions of rural and urban production enterprises.

Two additional aspects of employment patterns were evaluated within the county-town framework. These were average payroll earnings per employee and the major type of employment available. As shown in Table 3, average payroll earnings per employee are substantially higher in counties with larger towns and cities. Counties with only towns under 2,500 population averaged $613 per employee in the first quarter of 1959 and $997 per employee for the similar period in 1969. Earnings were nearly 40 percent higher in 1959 for counties with cities over 50,000 population. A similar difference is also evident in the data for 1969.

A partial explanation of these differences is the amount of manufacturing employment available in the large-city group of counties. Counties with only cities under 5,000 almost always have more employment in retail sales than in other types of economic activity. Counties with towns between 5,000 and 9,999 have more manufacturing activity than counties with towns under 5,000, but retail sales still dominate. In counties with towns over 10,000 population, manufacturing clearly dominates, and the average payroll per employee is considerably higher. The pattern of employee returns provides additional evidence why migration is toward larger towns and cities. Wage rates are higher and "economic men" respond accordingly. Of course, businessmen see wages as a production cost and, therefore, the lower wage rates of smaller towns may create a positive environment for locating new industry within the rural community.

Future Potentials for Alternate Sized Iowa Towns

In previous sections we have tried in various ways to indicate the economic relationship and degree of attachment of agriculture and different sized Iowa towns. The economic framework used initially to describe the process by which various sectors of a rural community exchange money for goods and services provides one means for examining the interactions within a rural community. It allows a visual description of how changing sources of farm inputs affect the economic viability of the rural town, and how businesses supplying consumer goods and services depend on the level and distribution of agricultural income, which is itself dependent on other factors. These other factors include the number of farm families dividing up farm receipts, the amount of government payments, the level of tax payments, and the quantity of production and prices received for products.

In terms of actual experiences over the last two decades, Iowa farmers have not received rapidly increasing amounts of farm income from the production and sale of farm products. While cash receipts have risen, as indicated in Table 4, production expenses have similarly gone up. Net cash income left after expenses has increased an average of only $5 million per year. The largest increase in cash flows to Iowa agriculture has come from federal payments for production-control programs. But if we note that the purchasing power of each dollar has declined 40 percent over this

Table 3. Average payroll earnings per employee and major type of business employment in Iowa, 1959 and 1969.

Counties with Maximum size Town of: a/	Average payroll Per Employee First Quarter 1959	Average payroll Per Employee First Quarter 1969	Major Type of Employment Available 1959	Major Type of Employment Available 1969
1,000- 2,499	$ 613	$ 997	Retail Sales	Retail Sales
2,500- 4,999	658	1,046	Retail Sales	Retail Sales
5,000- 9,999	732	1,144	Retail Sales	Retail Sales
10,000-50,000	910	1,342	Manufacturing	Manufacturing
50,000-above	1,013	1,486	Manufacturing	Manufacturing
State of Iowa	732	1,138	Manufacturing	Manufacturing

Source: U.S. Bureau of the Census, County Business Patterns, GPO, Washington D.C. 1959 and 1969.

a/ Data for the different town sizes are derived by grouping together counties in Iowa according to which category the largest town in the county falls. Then the gross business sales and agriculture expenditures of these counties are summed.

Table 4. Levels of cash receipts, production expenses, net income from farming and total government payments for Iowa farmers, 1950-1970.

Year	Cash Receipts	Production Expenses	Cash Income From Farming[a/]	Government Payments
		Million Dollars		
1950	2,142.8	1,383.9	758.9	10.9
1955	2,157.9	1,560.9	597.0	7.4
1960	2,489.0	1,928.0	561.0	20.8
1965	3,079.9	2,303.0	776.9	228.8
1970	3,929.7	3,080.2	849.5	235.8

Source: U.S. Department of Agriculture, Farm Income Situation, State Estimates, 1949-1970. FIS 218 Supplement, August 1971.

[a/] Does not include value of home consumption, gross rental value of farm dwellings or net change in farm inventories.

period, then in terms of current purchasing power, the dollar magnitude available to Iowa's rural communities from agriculture is probably not any larger today than it was in 1950, and it may be considerably smaller.

Of course, we are not referring to all towns in Iowa when we refer to the dependence on the agricultural sector. The degree of dependence derived earlier (shown in Table 1), however, would indicate that towns under 2,500 population in Iowa have a major dependence on agriculture for economic viability. These towns make up a significant proportion of all towns in Iowa (shown in Table 5). Of the 951 incorporated Iowa towns, 840 are under 2,500 population, a whopping 88 percent. These towns are heavily tied to the farm operations surrounding them for purchases of production inputs, which accounted for over 40 percent of all business transactions, according to our calculations. It is these towns which gain or lose the most from changes in total acres of crop production and its attendant demands for fertilizer, chemicals, seed, fuel and other inputs. These towns probably gain less from government programs which restrain crop acreage and production since government payments can go for a more diverse expenditure pattern, such as increased savings, investments in land and buildings, government bonds or the national stock market.

We are not saying, however, that all towns under 2,500 population have no development potential except that potential related to agriculture. As the structural outline of these towns (shown in Figure 2) indicates, some already have limited industrial activities. These provide a base for potential expansion. It is probably true that most of this development potential is tied to a very few persons--a local entreprenuer, a banker with faith in untried ventures, and local groups with progressive ideas on community development.

All in all, Iowa has an abundance of many factors which can encourage industrial expansion, including abundant supplies of farm products for processing, a strong demand for farm production items, many of which are mechanical in nature and can be produced in limited sized factories, and a labor force which is lower cost in smaller rural communities. It also has abundant numbers of communities which are seeking industrial activities but which the data suggest are firmly tied to agricultural production. Helping different groups in these communities to develop realistic sets of expectations is a major need for the future. Understanding the importance of agriculture as a major source of demand for future sales and services can lead to more realistic community planning, investments in business operations and a greater potential for many small communities in Iowa.

Table 5. Distribution of Iowa towns by size and percent with percentage of nonfarm population and total population residing in each size town.

Town Sizes Measured in No. of persons	Number of Incorporated Towns	Percentage of all Towns	Percentage of town Population[a/]	Percentage of total Population[b/]
0- 249	302	31.8	2.2	1.6
250- 499	194	20.4	3.4	2.5
500- 999	209	22.0	7.3	5.4
1,000- 2,499	135	14.2	10.2	7.4
Under 2,500	840	88.4	23.1	16.9
2,500- 4,999	48	5.0	8.2	6.0
5,000- 9,999	36	3.8	12.3	9.0
10,000-49,999	20	2.1	22.9	16.7
50,000 and over	7	0.7	33.6	24.6
Over 2,500	111	11.6	77.0	56.3
TOTAL	951	100.0	100.0	73.2

[a/] Total 1970 population living in towns of Iowa was 2,066,679 persons.

[b/] Total 1970 population living in Iowa was 2,824,376 persons.

PUBLIC POLICY RESEARCH AND THE POLITICAL PROCESS

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"Rural research institutions ... are seeking to serve a rather new group of clients -- the rural disadvantaged, who have little political power, lots of incipient opposition including that generated by their own self-concept, and who do not appear at the doorstep waiting for research outputs."

"His (the farmer's) community rank is increasingly that of the pre-Civil War plantation owner, although today's commercial farmer (or farm corporation), more clearly than the Southern gentleman, is the "fat cat" from whom other rural citizens must derive their incomes."

"Researchers are understandably reluctant to become peddlers, but if we really are pleased with our products, then we must become at least as thorough in achieving salience for problems and awareness of our findings as we are in conducting the research itself."

MY OBJECTIVE is to probe the relationship between rural development research in Iowa and its sponsors, giving special attention to public policy research.

The relationship between public agencies and the creation of knowledge runs in both directions. Public agencies may sponsor research. Conversely research findings may have some impact upon the structure and policies of the government. Knowledge indeed is power. These agencies, and all research sponsors, are inclined to manipulate the production and use of knowledge so as to maintain their own interests. Meanwhile, researchers addressing themselves to problems such as the problem of rural development certainly want to be free to suggest adjustments in the existing situation. Recognizing that sponsors provide the resources and then use or misuse the product, the producers of knowledge need to be as shrewd as they can be in defining their relationships with sponsors, most particularly when a new research area is being mapped as in the case of rural development.

In this paper I would like to discuss, first, the relationships in general between researchers and those who support them, and to follow this with some appropriately cynical remarks about how the political system uses knowledge. Then I will present a case study of censorship and bias which occurred in directing and using policy research on rural America. Following this are two measures of the content and constituency of agricultural research, one for the national level and one for Iowa. Finally, I wish to suggest possible directions for defining relationships between researchers and the interests that sponsor them.

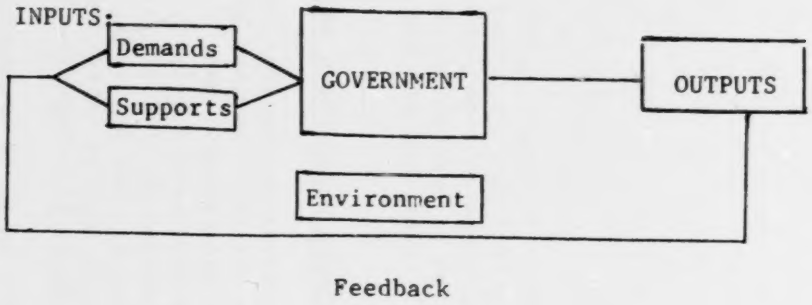
Relationships in General Between Researchers and Those Who Support Them

There are at least two words to describe those who support scholarly research. One word is "client," defined by Webster as "one who employs the services of any professional man." The other word is "benefactor," which Webster describes simply as "one who confers a benefit." The difference perhaps is that the client wants something rather specific, intended for his own purposes, while the benefactor may have no expectations about what is to be done or for whom, though he hopes that knowledge produced by scholars will be beneficial in some way.

Scholars probably prefer to serve benefactors rather than clients. They may contrast themselves with the typical professional who merely responds to his client's demands. This self-concept may be useful as a goal, but it may be self-deceptive as a version of reality.

Our freedom is invariably circumscribed in some degree, even at great institutions. For example, we should notice that the state as our benefactor determines the areas of knowledge that will be given emphasis, and often these areas are selected in anticipation of serving certain goals and even certain interests. These goals may seem desirably broad, as were those listed in the original Hatch Act, and

Illustration 1. "THE POLITICAL SYSTEM"


INPUTS:
Demands
Supports
GOVERNMENT
OUTPUTS
Environment
Feedback

LOCATING THE TYPICAL POLITICAL LEADER

this was true at first of the goal of cold-war defense that has supported most federal post-war research. Yet in each case, interests developed, and these interests tried to establish themselves as clients rather than benefactors. They particularly wished to control research describing the distribution of public policy benefits. Perhaps we can explain why this happened by briefly looking at the function of knowledge within the political system.

Knowledge in the Political System

We think of the political system as having inputs and outputs. Inputs are in two forms--(1) demands made upon the system such as requests for public education, lower consumer prices, or women's rights and (2) supports, such as the willingness to pay taxes and to obey price control rulings. Theoretically, the system maintains good health by producing outputs that can generate new support, but this linkage is not so easy. Outputs may not be very helpful, perhaps because they are too few relative to other factors influencing inputs or because they are not distributed wisely, and this may be true whether outputs are material, such as subsidies, or symbolic, such as status factors.

Rather than concentrating wholly on producing outputs, then, governments may become involved in the feedback process, seeking to control people's perceptions of reality and also to control the means by which people communicate demands. At the extreme is the world of "Astro-boy," where populations usually make no demands but rather give full support regardless of governmental policies. The other extreme is described in the Soviet Constitution, where every citizen has the right to receive full information and to freely use printing presses and other media to communicate his own views. But the Soviet Union obviously does not tolerate uncontrolled feedback, and indeed no goverment is comfortable in the presence of so mischievous a right. Politicians in the Soviet Union and here do what they can to control opposition leaders and try to monopolize those knowledge resources that are under government's wing. So, if a typical political leader were willing to locate his position within our model of the political system, he might not draw himself within the big box that stands for the political system, but rather show himself as a truant hanging on the line that feeds back demands and supports into the system.

We know of obvious cases where systems tried and apparently succeeded in managing feedback. Western totalitarian systems come to mind, also Western class systems such as Britain's in earlier centuries and our own traditionalist South, where most people were denied access to education, information, and the legitimate means for political participation. Today, access to information and to means for participation is less likely to be controlled by class norms and mechanisms, although the controls which do exist may on occasion benefit certain classes. Today, decisions are usually made within functional subsystems consisting of a few specialized legislators, particular bureaucracies, and a specialized constituency. This is the situation, as we know, in the case of agriculture policy.

Today's functional decision system finds it possible to isolate itself from certain kinds of demands entering the system. It may do this by establishing norms as to who may participate, akin to those who once used to confine suffrage to property holders only. Or policy questions may be presented as being complex and uninteresting. And authoritative knowledge sources are kept under control of the subsystem, as much as possible.

It is this type of subsystem which has allocated benefits within rural America. As Professor Heady pointed out earlier, the distribution has been skewed toward certain groups, especially commercial farmers, who constitute a minority of all rural people. This subsystem has been notably unsuccessful in capturing benefits for rural America as a whole, but remarkably it has transformed the commercial farmer himself from a socio-economic underdog to a commanding status position, where he is equal and perhaps superior to town professionals and businessmen and far above the rural workingman. His community rank is increasingly that of the pre-Civil War plantation owner, although today's commercial farmer (or farm corporation), more clearly than the Southern gentleman, is the "fat cat" from whom other rural citizens must derive their incomes.

One could argue, in the Marxist style, that the farmer has achieved this transformation simply by hanging onto his hat as he rode out a technological revolution. But in fact there are additional explanations, one of which is that the agriculture subsystem has been good at managing feedback. The system had several things going for it--the size of its fine knowledge establishment; the backbone, brains, and special motivations of the Southern gentlemen farmers; and the farmers' lack of inhibitions with respect to telling intellectuals and scientists what to do next. The scientists became just another set of hired hands.

I think it appropriate here to present a few of the disappointing incidents in efforts at rural development research within the agricultural subsystem.

Case Study of Research on Rural Policy and Development Within the Agriculture Experiment Station System

The agriculture research establishment is today largely the product of a series of laws and appropriations which began with the Hatch Act. This Act provided a rather broad mandate for research on "the problems of agriculture in its broadest aspects and such investigations which have for their purpose the development and improvement of the rural home and rural life, and the maximum contribution of agriculture to the welfare of the consumer, as may be deemed advisable, having due regard to the varying conditions and needs of the various states."*

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*Quoted in Report of a Study sponsored jointly by Association of State Universities, and Land Grant Colleges and U. S. Department of Agriculture, A National Program of Research for Agriculture (October, 1966), pp. 32-33.

But this broad perspective has since been narrowed. Efforts to provide an honest comprehensive picture of rural life during and after modernization, and to devise programs of social action--these have been nipped in the bud.

During the New Deal, a number of experimental programs to recognize and help the rural poor were developed under the Farm Security Administration. The FSA was dismembered at the earliest opportunity by white Southerners in Congress and in the Farm Bureau, with assistance from Midwestern conservatives. The same fate overtook the Land Use Planning Committees which were intended as a means by which rural communities could plan their own futures. Opposition to such institutions seemed to arise partly from the fear that they posed a threat to the "peculiar institutions" in the South, and they also threatened the structure of commerical agriculture. Of course opposition could also be justified based on rural values that opposed government planning.

Subsequently, the dismemberment of the USDA's Bureau of Agricultural Economics (BAE) provided a clearer picture of the motivations of decision-makers on agriculture policy. The BAE in 1945 had taken on the mission of preparing for changes in post-war agriculture. The BAE produced a so-called "conversion program for the cotton South," which would have de-emphasized cotton, diversified Southern agriculture, and would have provided industrial job training so that those moving out of Southern agriculture could find work nearby. This plan was labeled a "socialistic" scheme at that time by most cotton Congressmen.* Midwestern Republicans joined in demanding that the BAE be disciplined. Secretary of Agriculture Clinton Anderson thereby reorganized the BAE in accord with the advice of Representative Jamie Whitten (D., Miss.). The BAE lost its mission of rural development and also lost most of its distinguished personnel. Congressman Whitten's advice was to be applied henceforth, as he reminded Secretary of Agriculture Orville Freeman in 1961. He said to Freeman at that time, "I would say for the record that in past years we had some problems with the old Bureau of Agricultural Economics. At one time some of their social studies and other things were, to say the least, not very popular up at this level. It looked to us as if those things were getting over into the policy field, that perhaps some undue influence was exercised on action programs by the theorists and economic groups. It reached the point where it was extremely difficult for the Bureau of Agricultural Economics to get proper financing through the Congress. I don't mean that that will be the experience in the future, and I don't say it in any way to upset your plans at all. But it is always good for all of us to read history. May I suggest that reading a little history might keep our new bureau in the proper field of activity, if the feelings of Congress are like they were some years ago."**

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*Richard S. Kirkendall, Social Scientists and Farm Politics in the Age of Roosevelt (Columbia, Missouri: University of Missouri Press, 1966), pp. 227-228.

**U.S. House Appropriations Subcommittee on Agriculture, Hearings on Department of Agriculture Appropriations for 1962 (1961), p. 70.

The continuing antipathy toward more comprehensive perspectives on rural America was revealed in hearings on funds for rural development research during the past three years. During 1970 and 1971 several members of the House Appropriations Committee urged the CSRS to abandon efforts to do rural development research. They argued generally that such studies are ineffective, and money can be spent better in research on natural sciences. Congressman Mark Andrews (R., N.D.) specifically suggested that research on sunflowers was a better strategy for rural development in North Dakota than rural development research _per se_. He was particularly concerned that funds might be spent for economists and sociologists from the East who would come in to provide advice on North Dakota.* In 1970, the House Appropriations Committee refused to approve a $3 million request for rural development funds, the reason being, according to Representative Whitten, that the Committee believed the funds could better be used for rural water and sewer facilities. At the hearings, Congressman Whitten told Dr. John D. Sullivan of CSRS, "With all due deference to the research that you do and the fine bulletins that you publish, (rural people) don't want anybody sending them any more bulletins right now. They don't want anybody calling meetings and offering resolutions. If the folks I listen to have anything to say about it, what they want to do, if I understand them correctly, is to improve rural areas so we might slow down some of this movement toward the cities." Whitten said he preferred to use funds for rural electricity, sewage systems, and aid to rural industry. Whitten added, "I think everybody already knows what to do. Unless you get them to do what you already know to do, I don't think we need some more answers when we won't use the answers we already have. This is the reason this Committee recommended last year that you forego these development centers where you planned to meet and discuss what you were going to do to rural life."**

The request for rural development funds was restored by the Senate Appropriations Subcommittee for Agriculture. The outcome of this apparent serious conflict between the Department of Agriculture and certain influential members of Congress does suggest that the political environment for comprehensive rural development research has changed somewhat.

Effects of Client Domination Over the Knowledge Process

There is obviously something to be said for external controls over scholars such as those exercised in the above comments by members of the Congressional Appropriations Committees. Left alone, scholars might become lazy or might well amuse themselves with really irrelevant questions. Parenthetically, clients as well as scholars may sometimes prefer to be amused rather than informed, like the queen who seeks arguments over which dress she looks best in. Politicians have for generations seemed to enjoy learned debates on whether the electoral college should be modified or abolished.

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*U. S. House Appropriations Subcommittee on Agriculture, _Hearings on Department of Agriculture Appropriations for 1971_, (1970), part 2, pp. 400-402; and _Hearings on Department of Agriculture Appropriations for 1972_, (1971), part 2, pp. 581-582.

**U. S. House Appropriations Subcommittee on Agriculture, _Hearings on Department of Agriculture Appropriations for 1972_ (1971), part 2, pp. 563-564.

There is usually much to be said against external controls when the objective of these controls is to make knowledge serve narrow special interests. The impact of such control might be to force research into a status quo perspective, as in the case of cotton textile research within the Agricultural Research Service. The ARS has refused to experiment with synthetic blends because the sole aim of the cotton research program was to maximize use of cotton.*

Over time, of course, substantial clients such as the federal government and/or a major economic interest can reduce the vision of a whole academic discipline. Over time, the exercise of censorship on one hand while offering a carrot on the other may infect some of the best and freest products of a discipline. An example is Harold Briemyer's recent book dealing with the freedoms enjoyed by participants in the farm economy.** In this book the author failed even to discuss farm workers. Were they participants in the farm economy and was "freedom" relevant to them? Certainly, he said, and he was at a loss to explain the omission, except that earlier writings on the farm economy had also excluded farm workers.

Perhaps it is too easy to blame clients for the fact that large areas of the rural landscape have been poorly covered by rural research institutions, but the issue should be squarely confronted by any group whose mission is to study rural development.

Clients have particularly discouraged the production of policy-oriented research. Perhaps the reasons for this were indicated in the case study above. In 1965 a special task force of the Cooperative State Research Services headed by Dr. George Browning found that the USDA and CSRS were doing little research on social, economic, and human aspects of rural America, and called for more. Subsequently, J. Patrick Madden noted five problem areas on which research was needed, including "meeting the housing needs of rural families." Madden listed five types of public policy research needed on these problem areas. His list includes the following: (1) determine the existing situation, including description of the target population; (2) analyze relevant forces impinging, and estimate causal relations; (3) study the effects of current intervention programs; (4) evaluate potential innovations in intervention programs, using pilot studies; (5) pull together information and make it accessible to policy makers; (6) Madden also emphasized using techniques to make knowledge accessible, and this is listed here as the sixth type of research.

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*U. S. House Appropriations Subcommittee on Agriculture, Hearings on Department of Agriculture Appropriations for 1970 (1969), part 2, pp. 72-73.

**Freedom and the Economic Organizations of Agriculture (Urbana: University of Illinois Press, 1965).

There follow two analyses which might indicate how well we are doing in Iowa and in the nation in addressing ourselves to rural policy research priorities. One measure of federal-supported research on housing under 1970 projects nationwide uses Madden's categories, and the other, an analysis of research publications in Iowa State's Bulletins, Special Reports, Iowa Farm Science and Farm Policy Forum, uses the classifications of research employed by CSRS.

Research subjects for housing research nationwide are summarized in Table 1. Out of the total of 71 projects listed under RPA 801 (housing) for which some description was provided, 36 of these could be placed in Madden's categories. However these 36 projects accounted for only one-fifth of the total research man-years. Other research dealt with technical aspects of construction and maintenance. Policy research projects were mainly dealing with the situation and its causes rather than with programs or remedies.

For whom were these findings intended? Since most research in man-years was concerned with technical aspects of construction or maintenance of property, the principal users presumably were those who construct or maintain houses, including architects, builders, and service industries. No one tested the proposition that economies achieved in the construction of houses will be passed along to the consumer. Consumer interests were rarely mentioned in the progress reports.

Generally speaking, no user was specified in most of the other projects not dealing with technical aspects. It was difficult to know, for example, who would be the user or recipient of new information about relationships between socio-economic characteristics of residents and the quality of their housing. This information might be used in program development, but it was not usually addressed to methods of administering programs or other causes directly subject to administrative controls. In summary, most housing research was not intended for the benefit of consumers directly or for policy makers. Rather, it was pointed toward use by the housing industry or to be incorporated into a larger body of sociological knowledge.

Iowa State research published in its own outlets is summarized in Table 2. This table categorizes publications according to the comprehensive scheme used by CSRS-USDA. It provides a basis for comparing the distribution of Iowa State output over the past decade with the distribution under 1970 research projects across the nation. From this comparison it appears that sponsored research at Iowa State has been more oriented towards the problems of people in communities than nationwide agricultural research projects, even in 1970. This may explain why research activity at Iowa State is often cited at congressional hearings as illustrative of new objectives in agricultural research.

Which Clients?

My discussion of client relationships up to this point has stressed the impact of clients upon research orientation. What I have meant to emphasize, however, is that our research will tend to--indeed must--have

Table 1

Types of Research under RPA "Rural Housing," by CSRS and USDA, calendar 1970*

Madden Public Policy Categories**	No. of Projects	Man-Years
1. Situation	12	6.6
2. Causes	15	4.4
3. Current Programs	1	.0
4. Innovations	4	.7
5. Synthesis of findings	2	.6
6. Communication to decision makers	2	.5
Subtotal	36	12.8
Technical Findings		
7. Construction	15	39.6
8. Parasites	6	12.0
9. Maintenance	3	1.2
	24	52.8

---

*Derived from information in annual progress report

**J. Patrick Madden:
1. Determine the existing situation, including description of the target population.
2. Analyze relevant forces impinging, and estimate causal relations.
3. Study the effects of current intervention programs.
4. Evaluate potential innovations in intervention programs, using pilot studies.
5. Pull together information and make it accessible to policy makers
6. Use techniques to make knowledge accessible.

from "Social Change in Public Policy in Rural America: Data and Research Needs for the 1970's," American Journal of Agricultural Economics (May, 1970), pp. 308-314.

Table 2. Classification of Research Published in Selected Iowa State University Publications in Recent Years

		SR[1]		RB[2]		FS[3]	
		No	%	No	%	No	%
1.	Resource Conservation & Use	6	15	13	18	6	3
2.	Protection of Forests, Crops, Livestock	2	5	1	1	27	14
3.	Efficient Production of Farm, For. Prod.	3	8	19	26	34	17
4.	Product Development & Quality	0	0	0	0	0	0
5.	Efficiency in Marketing System	8	21	17	23	44	23
6.	Expand Export Markets, Assist. Dev. Countries	0	0	0	0	1	1
7.	Consumer Health, Nutrition, Well-being	2	5	0	0	15	8
	Food Free from Toxic Residues	(1)		(0)		(0)	
	Protect Food Supplies from Natural Toxins	(0)		(0)		(1)	
	Food Choices, Habit, Consumption	(0)		(0)		(5)	
	Home/Commercial Food Preparation	(0)		(0)		(7)	
	Selection/Care Clothing, Textiles	(0)		(0)		(1)	
	Control Insect Pests of Man	(1)		(0)		(0)	
	Prevent Trans. of Animal Dis. to People	(0)		(0)		(0)	
	Human Nutritional Well-being	(0)		(0)		(1)	
8.	Raise Level of Living of Rural People	10	26	22	30	35	18
	Housing Needs of Rural Families	(1)		(0)		(0)	
	Family Decision-Making/Financial Mgt.	(2)		(0)		(5)	
	Causes/Remedies of Rural Poverty	(0)		(0)		(0)	
	Improvement of Economic Potential	(1)		(3)		(2)	
	Communication Processes	(0)		(1)		(0)	
	Individual/Family Adj. to Change	(5)		(6)		(6)	
	Structural Changes in Agriculture	(0)		(7)		(17)	
	Govt. Programs to Balance Farm Output/Demand	(1)		(5)		(5)	
9.	Improve Community Services/Environment	8	21	2	3	18	9
	Alleviate Pollution	(1)		(0)		(0)	
	Forestland Recreation	(0)		(0)		(4)	
	Multiple-Use Potential of Forest	(0)		(0)		(0)	
	Wildlife/Fish Biology/Habitat	(1)		(1)		(2)	
	Trees to Enhance Rural/Urban Environ.	(1)		(1)		(4)	
	Culture/Protection Ornamentals & Turf	(0)		(0)		(5)	
	Improved Income Opportunities	(2)		(0)		(2)	
	Improve Rural Institutions/Services	(3)		(0)		(1)	
	OTHER (includes "available publications," "for your interest," etc.)	0		0		15	(8)
	TOTAL	39	101	74	101	195	101

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[1] Special Reports include the 39 numbers from August of 1962 to May of 1971

[2] Research Bulletins include 74 numbers from January, 1962 to October, 1971

[3] Farm Science includes 195 articles from February, 1968 to January, 1971 (when the periodical ceased publication)

FPF[4]		Center Agric. Econ. Dev.				Total		SMY-Natl. 1970[7]	
No	%	R[5]	B[6]	All	%	No	%	No	%
5	5	15	4	19	3	49	4	1335	13
0	0	1	0	1	0	31	3	2095	20
5	5	31	15	46	7	107	10	3106	30
1	1	20	0	20	3	21	2	1476	14
8	8	46	41	87	13	164	15	565	5
15	14	33	84	117	17	133	12	125	1
0	0	1	2	3	0	20	2	529	5
(0)						(1)			
(0)						(1)			
(0)						(5)			
(0)						(7)			
(0)						(1)			
(0)						(1)			
(0)						(0)			
(0)		(1)	(2)	(3)	(0)	(4)			
39	37	92	127	219	32	325	30	329	3
(0)						(1)			
(0)		(1)	(1)	(2)	(0)	(9)			
(5)		(2)	(4)	(6)	(1)	(11)			
(2)		(22)	(11)	(33)	(5)	(41)			
(0)		(1)	(0)	(1)	(0)	(2)			
(0)		(5)	(25)	(30)	(4)	(47)			
22)		(29)	(45)	(74)	(11)	(120)			
10)		(32)	(41)	(73)	(11)	(94)			
32	30	45	123	168	25	228	21	833	8
(0)		(0)	(2)	(2)	(0)	(3)			
(0)						(4)			
(0)						(0)			
(0)						(4)			
(0)						(6)			
(0)						(5)			
(9)		(9)	(45)	(54)	(8)	(67)			
23)		(36)	(76)	(112)	(16)	(139)			
0						15			
05	100	284	396	680	100	1093	100	10,393	99

Farm Policy Forum includes 105 articles from last issue in 1962-63 volume, to 1968, (when the periodical ceased publication).

Articles and essays appearing in Reports of the Center for Agricultural and Economic Development (now called the Center for Agricultural and Rural Development), Reports No. 1-39.

Articles and essays appearing in books issued by CAED. Articles and essays appearing in both places were counted only in the Reports.

Distribution of Scientist Man Years in Support of Agricultural Research, SAES-USDA. Source: North Central Office of Regional Director, 8/18/71.

specific users, and we will usually look to these users for resources to continue research. Therefore, we should seek out client relationships that permit us to do research which we think to be worthwhile, and that provide some assurance that clients will implement our findings in a constructive manner.

Perhaps the ideal client was the first one to be served by agricultural research--the aggressive farmers who immediately put research findings to work. In the struggle of man against nature there was at that time little political conflict, and in any case farmers then had high status and enough power. But the strategy of serving successful farmers wore thin as farmers became less constructive in the social arena, less powerful in politics, and less needful of public research.

Rural research institutions, recently bothered by the question of equity both with respect to the distribution of resources generally and the distribution of benefits from their own research findings, are seeking to serve a rather new group of clients--the rural disadvantaged, who have little political power, lots of incipient opposition including that generated by their own self-concept, and who do not appear at the doorstep waiting for research outputs.

Rural development as a new mission does offer the possibility of new potential clients and the possibility of achieving a balance among possibly competitive interests. Yet some interests no doubt will be more possessive than others, and present clients already include industries whose social impacts are under sharp criticism, and also intransigent governments and bureaucracies.

Rural development offers an opportunity for what Harold Lasswell has called, "configurative thinking," which in these times may be a feasible strategy for some researchers and a grand illusion for others. Lasswell, in an article, "From Fragmentation to Configuration," says that the kind of specialized piecemeal knowledge that has been produced until recently has lent itself almost by its nature for use by special interests. Indeed Lasswell is generally cynical about the impact of past knowledge, stating that "The institutions of war and oligarchy predate modern science and scholarship, and it is worth reiterating that thus far they have captured science and scholarship for their special concerns."* But Lasswell continued, "There are grounds for suggesting that these results are temporary, not permanent, and that the intellectual prerequisites for different effects are spreading. In belated parallel to the multiplying network of intermediaries is what may be called the counter-offensive of configurative thinkers."** What Lasswell is saying, as I understand him, is that the philosophical approach which preceded the capacity to produce empirical knowledge, is now made possible again in our empirical age by virtue of the improved systems of knowledge production.

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*Harold Lasswell, "From Fragmentation to Configuration," in Policy Sciences (December, 1971), Vol. 2, No. 4, p. 442.

**Ibid.

New integrative theoretical approaches, the high speed computer, and the appearance of a few configurative thinkers have set the stage, according to Lasswell. These new developments allow "a contextual, a multi-valued point of view to pass from fantasy and exhortation to reality."

But even on this new plane, problems remain. Lasswell's main concern is whether access to the means of information will be open to all participants. "Or will existing oligarchies--some highly concentrated, some relatively dispersed--maintain or increase the degree of their effective monopoly of knowledge, agitation, authority, and control? Will they capture configurative thinking for systems of non-shared power?"*

In the last analysis, rural development does offer opportunities for reshaping our client relationships and may even permit new integrative approaches. By the same token, it is a time for being alert to the dangers of client relationships. "How do you stick your head into the lion's mouth," someone asked the lion tamer, and he replied, "Very carefully." We should deal with our clients in like manner.

Problems of Communicating Findings

Lions, of course, are dangerous, but lion tamers could not be without them. Researchers need users, and we can only emphasize by way of illustration here, the importance of developing the fine art of cultivating and using users.

(1) Note, for example, that the typical politician is a lawyer, and as such his test of validity is likely to be external rather than internal--he asks whether a target group is likely to be impressed with certain findings. He is also more likely to prefer a single valid case over generalizations based on anonymous cases such as those proceedings from surveys and census data.

(2) Consider also that it matters altogether whether a subject has salience. The process of popularizing a subject is usually distasteful to scholars, which means researchers may rarely be able to control the timing for consideration of problems.

(3) Consider that we indeed appreciate groups and individuals who are willing to test our hypotheses on themselves. An especially close relationship must be developed with parties who are asked to invest their own time and fortunes in experimenting with our ideas.

(4) There are various levels of sophistication at which research findings can be communicated. Presumably the Governor's Office of Planning and Programming can accept a higher level of complexity than can a group of legislators or a governor's assist, or an amateur organization representing certain citizens. If possible, researchers should surely be prepared to provide acceptable presentations at all of these levels.

(5) The question as to where to make research inputs for rural

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*Harold Lasswell, "From Fragmentation to Configuration," in Policy Sciences (December, 1971), Vol. 2, No. 4, p. 442.

development is really too complex for a specific answer. Unfortunately, the answer depends highly on the circumstances. We can only raise the image of the "multiple-cracks," denoting that on a given problem many decision arenas participate, and all have some impact and some have a veto. The best strategy is to touch all the bases--the political parties, the legislators and other elected office holders, the bureaucrats at each level, the media, the private groups. A hopeless strategy, by contrast, is to produce a good research bulletin and mail it third class to libraries and colleagues.

Researchers are understandably reluctant to become peddlers, but if we really are pleased with our products, then we must become at least as thorough in achieving salience for problems and awareness of our findings as we are in conducting the research itself.

The author wishes to acknowledge the assistance of Gary Meyer in the analysis of Iowa State publications.

POTENTIAL DEVELOPMENT OF THE FOOD PROCESSING INDUSTRIES IN IOWA

By C. Phillip Baumel
Professor of Economics and Industrial
Administration, and
John Pesek, Professor and Head
Department of Agronomy
Iowa State University

"...there appears to be limited opportunity for new jobs and plants in the traditional types of beef and pork slaughtering industries."

"...transportation costs will encourage the location of slaughtering plants in central cities in Iowa where a relatively large amount of imports will provide a supply of low-cost motor carrier services for outbound traffic."

"There is limited potential for increased investment and employment in the traditional food processing industries in Iowa. There appears to be substantial potential, however, for increased investment and employment in the processing of new forms and types of food."

TWO BASIC requirements of a food processing industry are: the availability of raw materials in the form of agricultural products and the presence of food processing skill in the form of firms already in the business. We will first indicate the present and projected availability of some basic agricultural products and the status of food processing industries already established and functioning in the state. Following this, we shall examine the potential for future development in food processing.

The level of grain production in Iowa depends upon the basic soil and climatic resources found in the state. Figure 1 is a generalized soil association map of Iowa to help us understand the nature of distribution of crop and livestock production. With some interesting exceptions, livestock and crop production are related (and projected to remain related) to the soil resource in Iowa.

Corn and Soybeans

In Figures 2 through 11, the 1969 information is based on published agricultural statistics from the Statistical Reporting Service. The projections for 1980 are based on a study by Baumel, Lifferth and Wisner.[1] The information is graphed without regard to county lines but with special emphasis given to the recognition of soil and climatological characteristics which vary over the state. The numbers presented are in terms of units of production per square mile of available farm land.

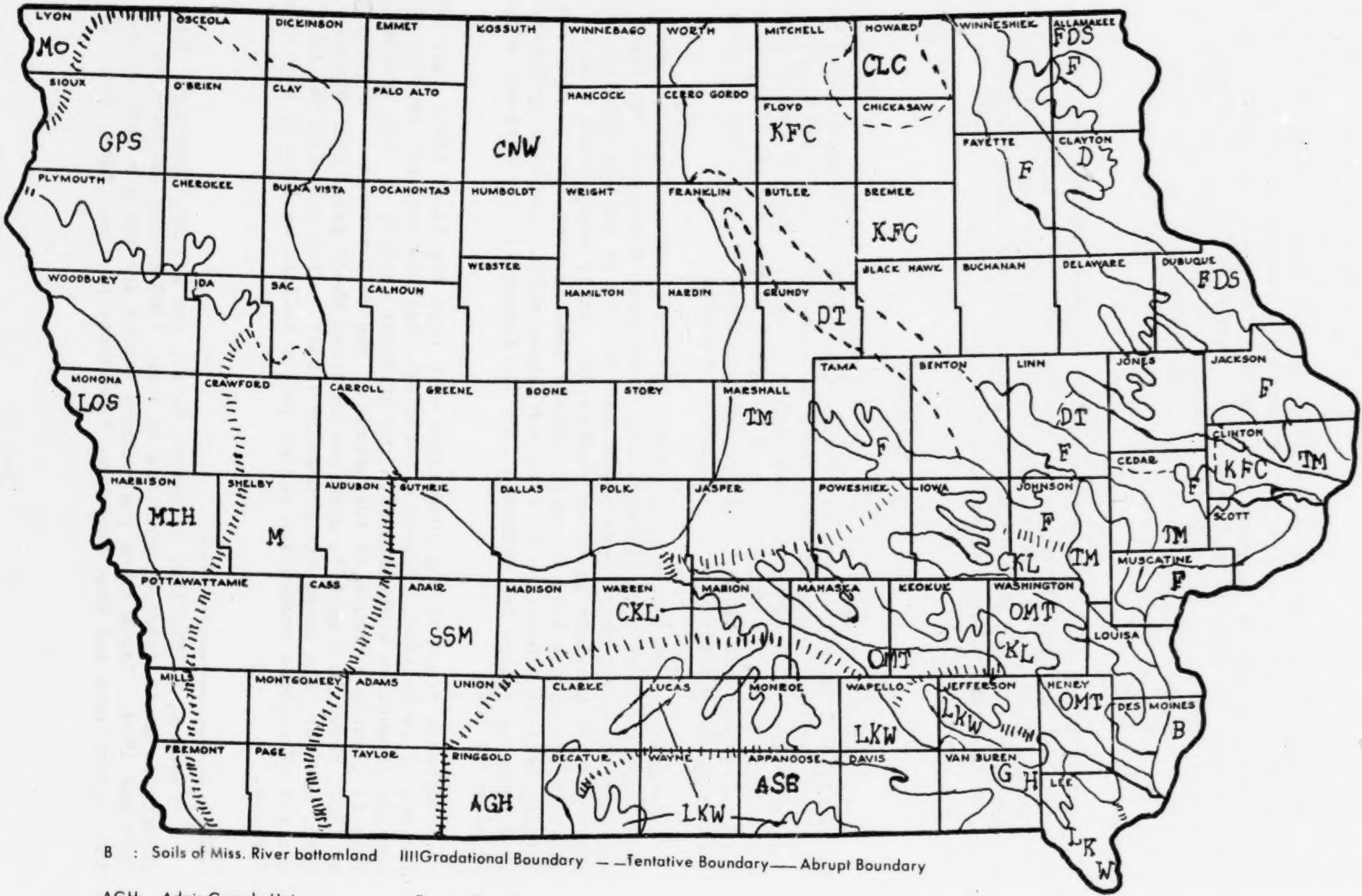
Present and projected corn production are shown in Figures 2 and 3. It is expected that corn production will increase throughout the state but that the areas where corn production density is now the greatest will make the most absolute gains in production. It is significant that a six-to-seven county area in north-central Iowa is projected to make the largest gain in production of corn per square mile. The high production in a two-county area in northwest Iowa (in Figure 2) is a seasonal effect peculiar to 1969.

Soybeans are a strong competitor with corn for land, labor, and other factors of production. Figure 4 indicates that the greatest density of soybean production coincides with the greatest density of corn production. This is clearly a result of the nature of the soil resource. Major gains by 1980, shown in Figure 5, also are in areas where gains are expected for corn; however, the areas are generally larger. This reflects the fact that the art of soybean production is not yet as refined as that of corn production.

1/Baumel, C. Phillip, Lifferth, D. R., and Wisner, Robert N. Estimated commercial grain sales by counties in Iowa, 1960-69 and projections for 1975 and 1980. Unpublished preliminary report for project 1810 of the Iowa Agriculture and Home Economics Experiment Station, Ames, Iowa, 1971.

PRINCIPAL SOIL ASSOCIATION AREAS OF IOWA

Figure 1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BREMER
WEBSTER
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
WOODBURY
IDA
SAC
CALHOUN
HAMILTON
HARDIN
GRUNDY
TAMA
BENTON
LINN
JONES
JACKSON
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
CLINTON
CEDAR
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
SCOTT
MUSCATINE
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE
Mo
GPS
CNW
KFC
CLC
FDS
F
D
DT
LOS
TM
MIH
M
SSM
CKL
OMT
LKW
B
AGH
ASB
GH
LKW

B : Soils of Miss. River bottomland IIIIGradational Boundary — —Tentative Boundary—— Abrupt Boundary

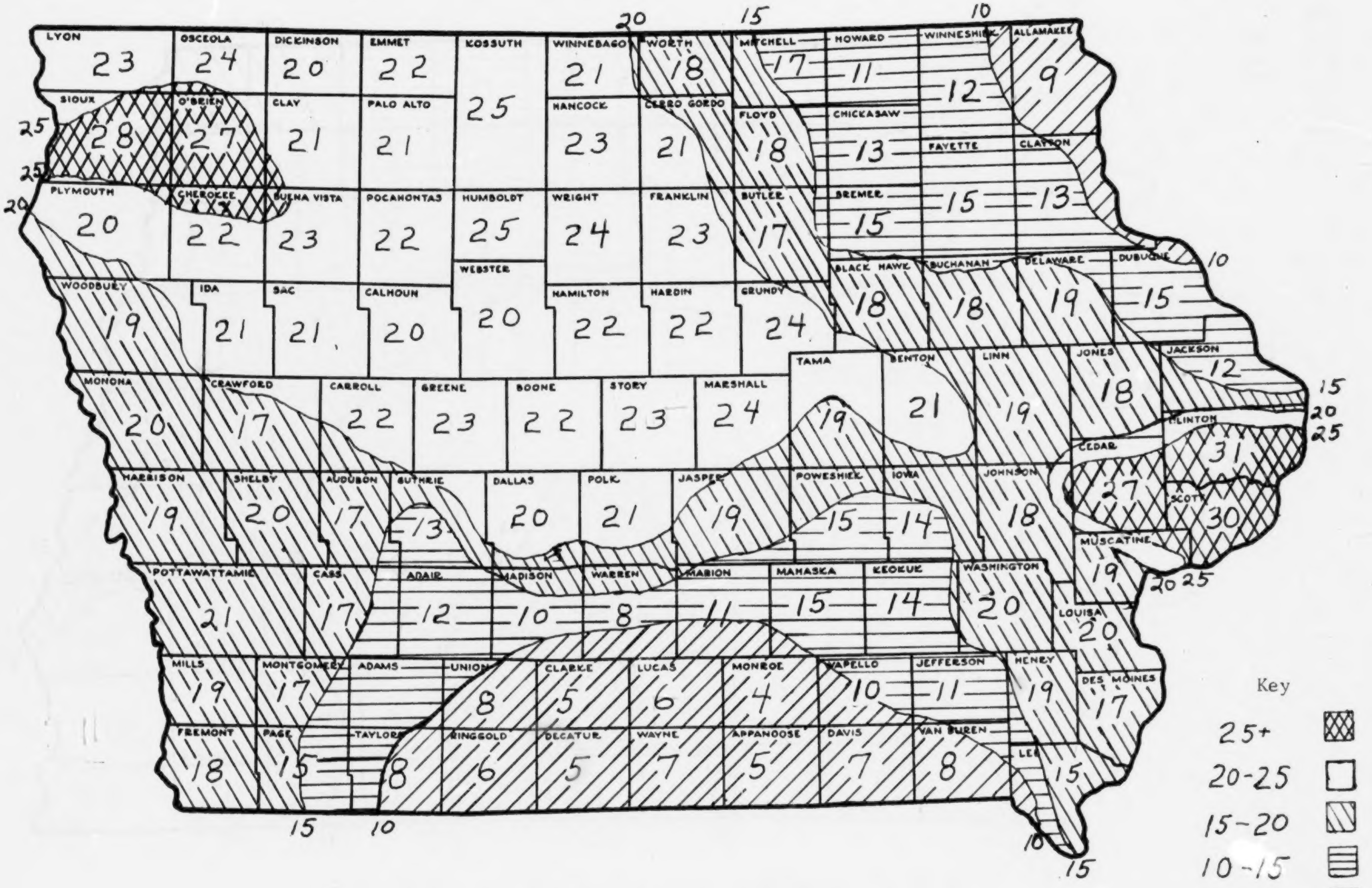
AGH: Adair-Grundy-Hair
ASE: Adair-Seymour-Edina
CKL: Clinton-Keswick-Lindley
CLC: Cresco-Lourdes–Clyde
CNW: Clarion-Nicollet-Webster
D: Downs

F : Fayette
FDS: Fayette-Dubuque Stonyland
GPS: Galva-Primghar-Sac
GH: Grundy-Haig
KFC: Kenyon-Floyd-Clyde

M : Marshall
MIH: Monona-Ida-Hamburg
Mo: Moody
OMT: Otley-Mahaska-Taintor
SSM: Shelby-Sharpsburg-Macksburg

CORN PRODUCTION - 1969

(in thousands of bushels per square mile)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SIOUX 28
O'BRIEN 27
CLAY 21
PALO ALTO 21
HANCOCK 23
CERRO GORDO 21
FLOYD 18
CHICKASAW 13
FAYETTE 15
CLAYTON 13
PLYMOUTH 20
CHEROKEE 22
BUENA VISTA 23
POCAHONTAS 22
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WRIGHT 24
FRANKLIN 23
BUTLER 17
BREMER 15
WOODBURY 19
IDA 21
SAC 21
CALHOUN 20
WEBSTER 20
HAMILTON 22
HARDIN 22
GRUNDY 24
BLACK HAWK 18
BUCHANAN 18
DELAWARE 19
DUBUQUE 15
MONONA 20
CRAWFORD 17
CARROLL 22
GREENE 23
BOONE 22
STORY 23
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TAMA 19
BENTON 21
LINN 19
JONES 18
JACKSON 12
CLINTON 31
CEDAR 27
SCOTT 30
HARRISON 19
SHELBY 20
AUDUBON 17
GUTHRIE 13
DALLAS 20
POLK 21
JASPER 19
POWESHIEK 15
IOWA 14
JOHNSON 18
MUSCATINE 19
POTTAWATTAMIE 21
CASS 17
ADAIR 12
MADISON 10
WARREN 8
MARION 11
MAHASKA 15
KEOKUK 14
WASHINGTON 20
LOUISA 20
MILLS 19
MONTGOMERY 17
ADAMS
UNION 8
CLARKE 5
LUCAS 6
MONROE 4
WAPELLO 10
JEFFERSON 11
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DECATUR 5
WAYNE 7
APPANOOSE 5
DAVIS 7
VAN BUREN 8
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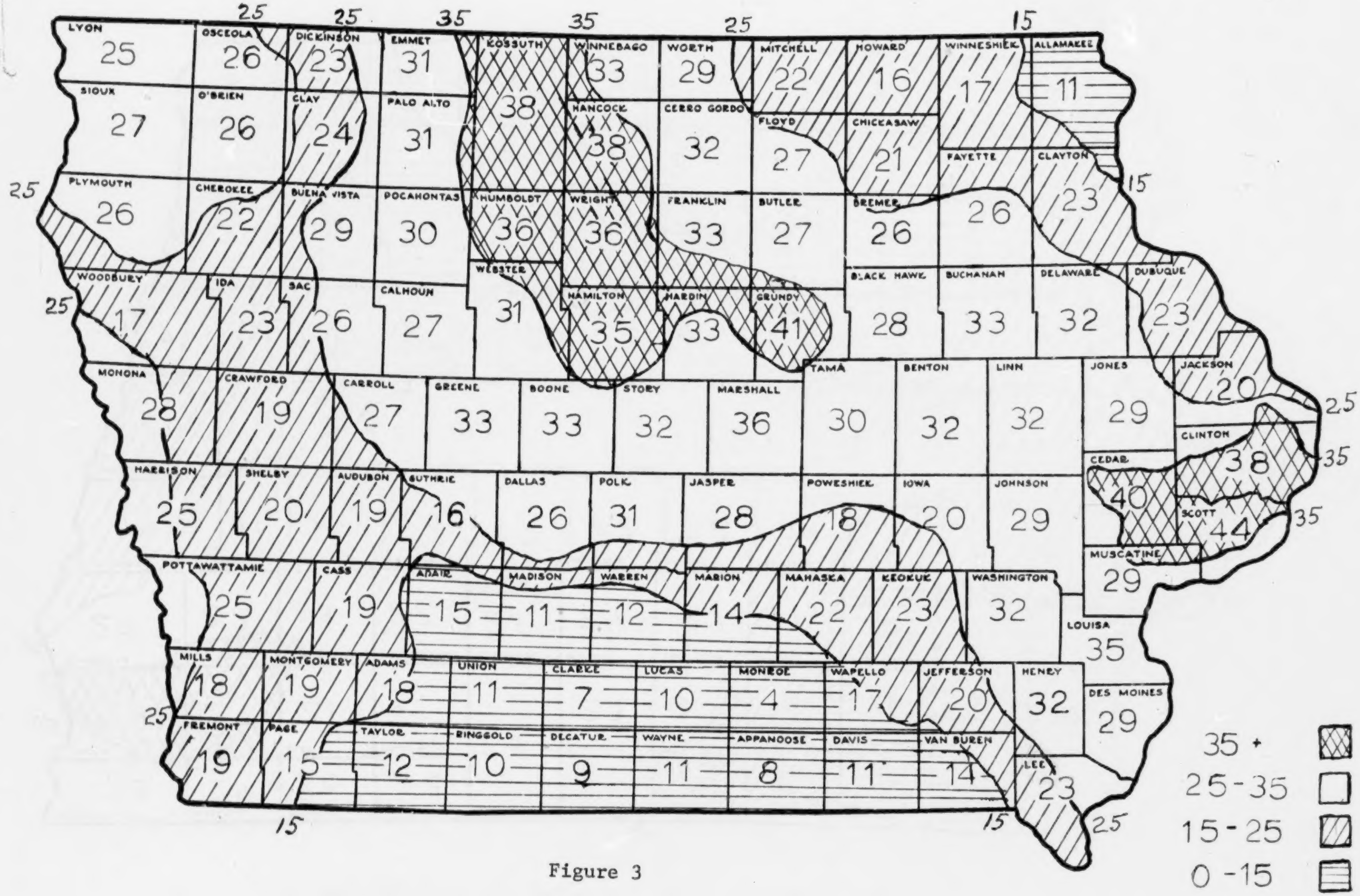
Figure 2

CORN PRODUCTION - 1980

(in thousands of bushels per square mile)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CLINTON 38
HARRISON 25
SHELBY 20
AUDUBON 19
GUTHRIE 16
DALLAS 26
POLK 31
JASPER 28
POWESHIEK 18
IOWA 20
JOHNSON 29
CEDAR 40
SCOTT 44
MUSCATINE 29
POTTAWATTAMIE 25
CASS 19
ADAIR 15
MADISON 11
WARREN 12
MARION 14
MAHASKA 22
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MILLS 18
MONTGOMERY 19
ADAMS 18
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MONROE 4
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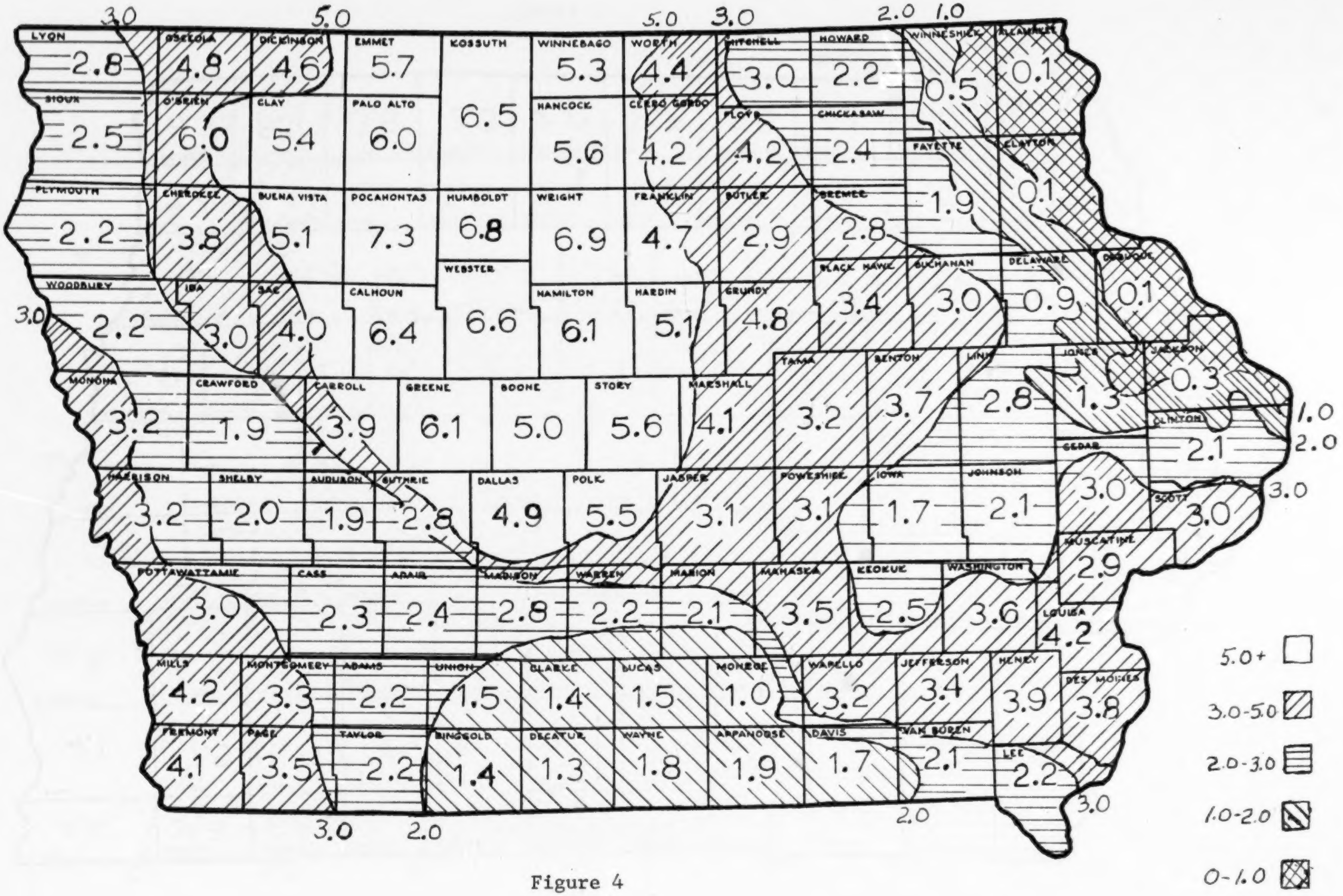
Figure 3

Soybean Production - 1969
(in thousands of bushels per square mile)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IDA 3.0
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HARDIN 5.1
GRUNDY 4.8
TAMA 3.2
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LINN 2.8
JONES 1.3
JACKSON 0.3
MONONA 3.2
CRAWFORD 1.9
CARROLL 3.9
GREENE 6.1
BOONE 5.0
STORY 5.6
MARSHALL 4.1
CLINTON 2.1
CEDAR 3.0
HARRISON 3.2
SHELBY 2.0
AUDUBON 1.9
GUTHRIE 2.8
DALLAS 4.9
POLK 5.5
JASPER 3.1
POWESHIEK 3.1
IOWA 1.7
JOHNSON 2.1
SCOTT 3.0
MUSCATINE 2.9
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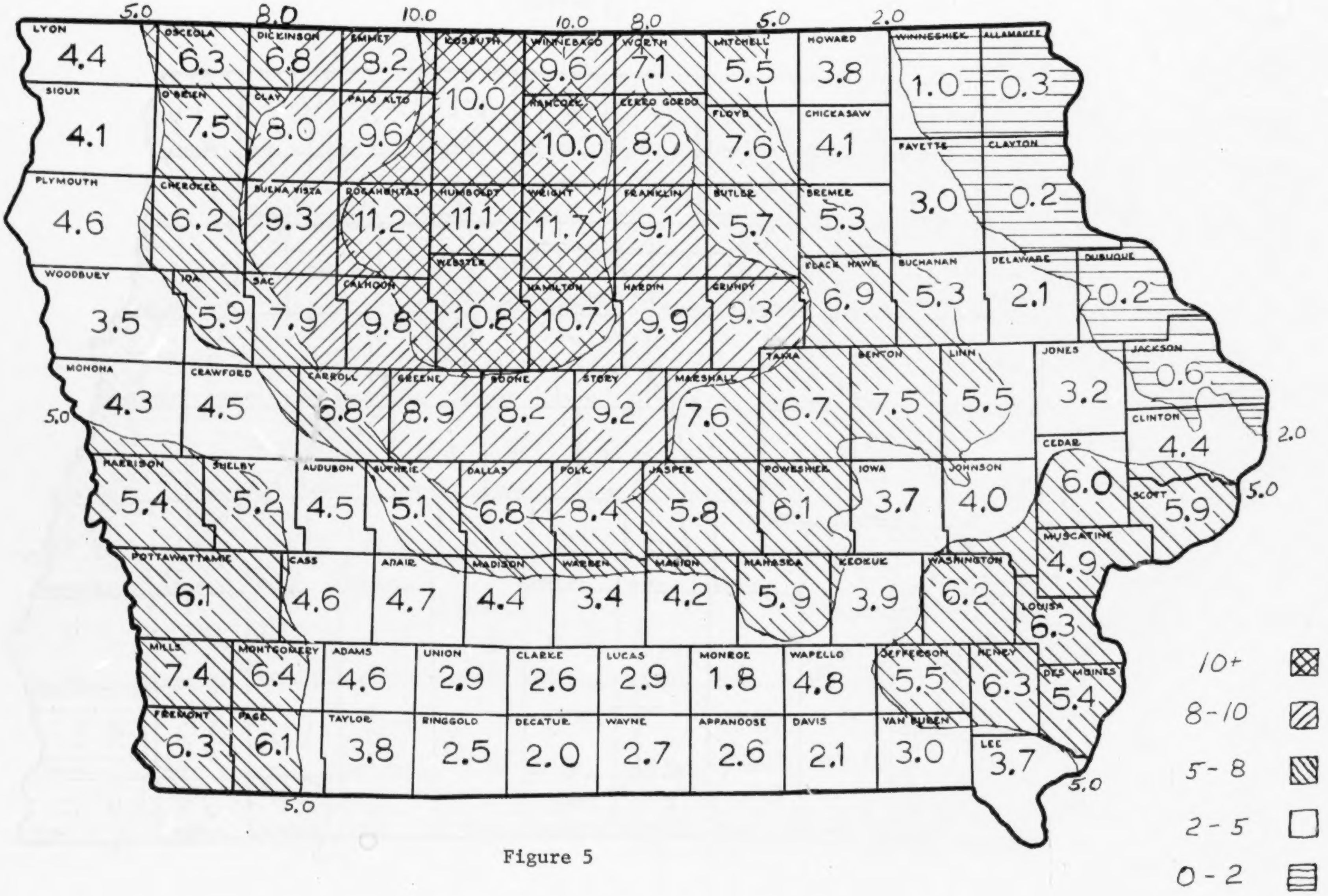
3.0
3.0
2.0
3.0
2.0
5.0+ □
3.0-5.0 ▨
2.0-3.0 ▤
1.0-2.0 ▧
0-1.0 ▩

Figure 4

Soybean Production - 1980
(in thousands of bushels per square mile)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10.0
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8.0
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EMMET 8.2
KOSSUTH 10.0
WINNEBAGO 9.6
WORTH 7.1
MITCHELL 5.5
HOWARD 3.8
WINNESHIEK 1.0
ALLAMAKEE 0.3
SIOUX 4.1
O'BRIEN 7.5
CLAY 8.0
PALO ALTO 9.6
HANCOCK 10.0
CERRO GORDO 8.0
FLOYD 7.6
CHICKASAW 4.1
FAYETTE 3.0
CLAYTON 0.2
PLYMOUTH 4.6
CHEROKEE 6.2
BUENA VISTA 9.3
POCAHONTAS 11.2
HUMBOLDT 11.1
WRIGHT 11.7
FRANKLIN 9.1
BUTLER 5.7
BREMER 5.3
WEBSTER
BLACK HAWK 6.9
BUCHANAN 5.3
DELAWARE 2.1
DUBUQUE 0.2
WOODBURY 3.5
IDA 5.9
SAC 7.9
CALHOUN 9.8
10.8
HAMILTON 10.7
HARDIN 9.9
GRUNDY 9.3
TAMA 6.7
BENTON 7.5
LINN 5.5
JONES 3.2
JACKSON 0.6
MONONA 4.3
CRAWFORD 4.5
CARROLL 6.8
GREENE 8.9
BOONE 8.2
STORY 9.2
MARSHALL 7.6
CLINTON 4.4
2.0
5.0
HARRISON 5.4
SHELBY 5.2
AUDUBON 4.5
GUTHRIE 5.1
DALLAS 6.8
POLK 8.4
JASPER 5.8
POWESHIEK 6.1
IOWA 3.7
JOHNSON 4.0
CEDAR 6.0
SCOTT 5.9
5.0
POTTAWATTAMIE 6.1
CASS 4.6
ADAIR 4.7
MADISON 4.4
WARREN 3.4
MARION 4.2
MAHASKA 5.9
KEOKUK 3.9
WASHINGTON 6.2
MUSCATINE 4.9
LOUISA 6.3
MILLS 7.4
MONTGOMERY 6.4
ADAMS 4.6
UNION 2.9
CLARKE 2.6
LUCAS 2.9
MONROE 1.8
WAPELLO 4.8
JEFFERSON 5.5
HENRY 6.3
DES MOINES 5.4
FREMONT 6.3
PAGE 6.1
TAYLOR 3.8
RINGGOLD 2.5
DECATUR 2.0
WAYNE 2.7
APPANOOSE 2.6
DAVIS 2.1
VAN BUREN 3.0
LEE 3.7
5.0
5.0
10+ ▩
8-10 ▨
5-8 ▧
2-5 □
0-2 ▤

Figure 5

Because soybeans and corn are intensively grown in the same regions, a significant shift in the acreage devoted to one or the other as a result of economic or other factors, will have a strong influence on the level of production of the other crop. One cannot consider the density of production of these two crops separately.

Cattle and Swine

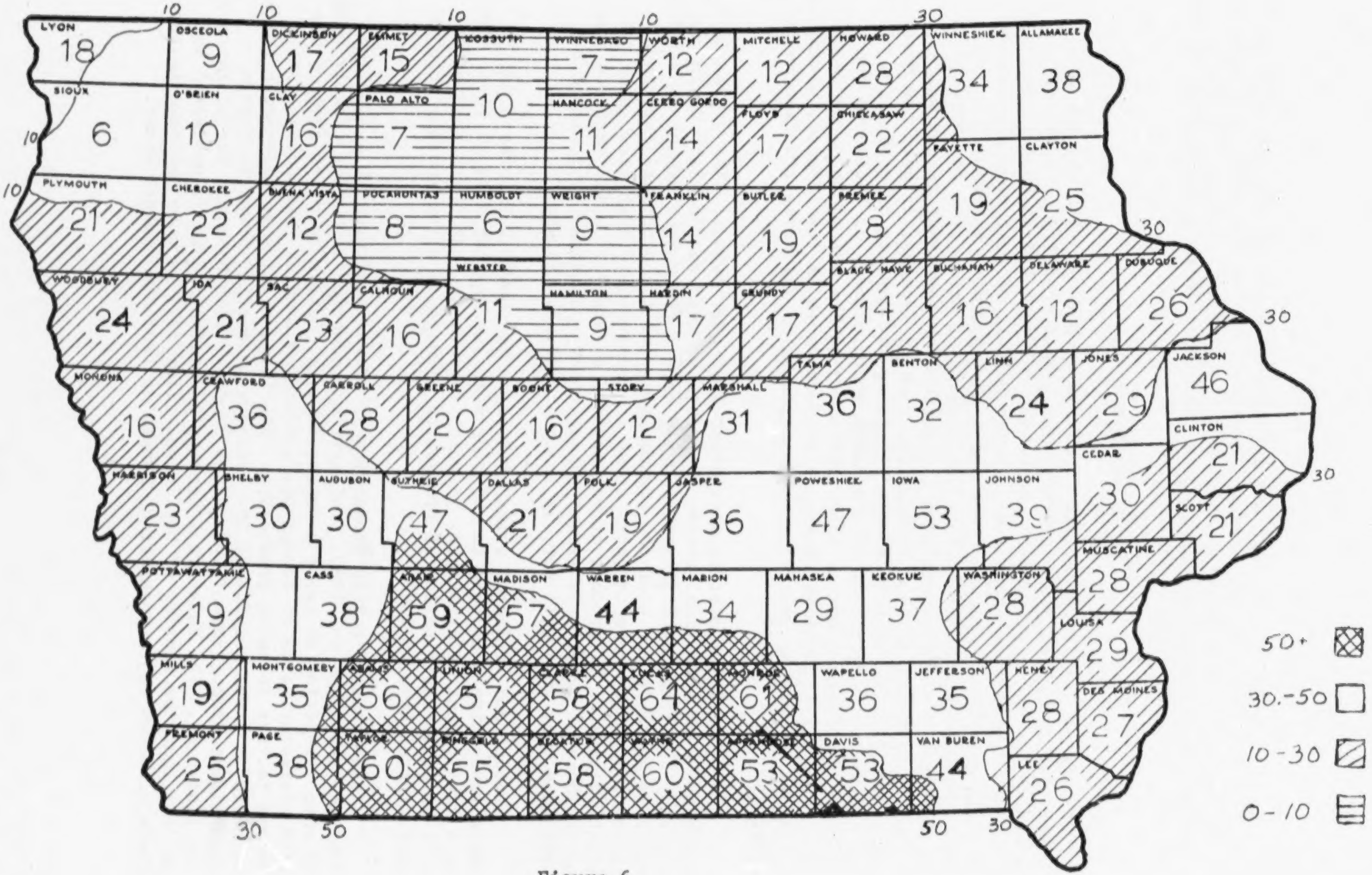
Figures 6 and 7 indicate the beef-cow numbers in 1969 and the projected number of beef cows in 1980. The highest density of beef cows is generally inversely related to the density of corn and soybean production. Likewise, the greatest absolute gains in numbers of beef cows per square mile are expected to occur in the areas that are more marginal for corn and soybean production and where the density of production is lowest. Because beef cows can satisfactorily perform on land that is not well-suited to corn and soybean production, a major increase in beef cow numbers can be achieved without seriously affecting the density of production of the grain crop, especially in the areas where numbers of beef cows are expected to increase most. Also, the state-of-the-art of beef cow production through modern technology in forage production is in its infancy, and major gains can be made by improving the management of the acres now devoted to forages.

One other point must be made about beef-cow numbers. The projections are based upon historical trends that suggest what people might do in the future. The areas of high corn density have a tremendous amount of roughage which is suitable for beef-cow consumption, and the potential carrying capacity for beef cows in these areas is tremendously high because of the great volumes of by-product stover that is available. While beef-cow numbers could increase greatly in areas of high corn production, past experience indicates that they will not, at least in the near future.

Present and projected swine production is shown in Figures 8 and 9. Swine production does tend to coincide with the availability of corn. This is a traditional relationship. A point to note is that there apparently will be an intensification of production of hogs in a four-county area in west central Iowa by 1980.

Grain-finished cattle production is shown in Figures 10 and 11 for 1969 and projected for 1980. Fed-cattle production is not as closely related to corn production as swine because, in part, cattle feedlots require certain characteristics of topography and drainage which have not as yet become factors in swine production. The largest gains in fed-cattle production are in areas outside of the beef-cow production areas so that a significant proportion of the calves produced will be moved out of the area for finishing. The fed-cattle density in southern Iowa is projected to be less than the density of beef cows. Iowa will have to continue to import feeders unless major unexpected changes in beef-cow numbers occur.

Beef Cows - 1969
(number of head per square mile)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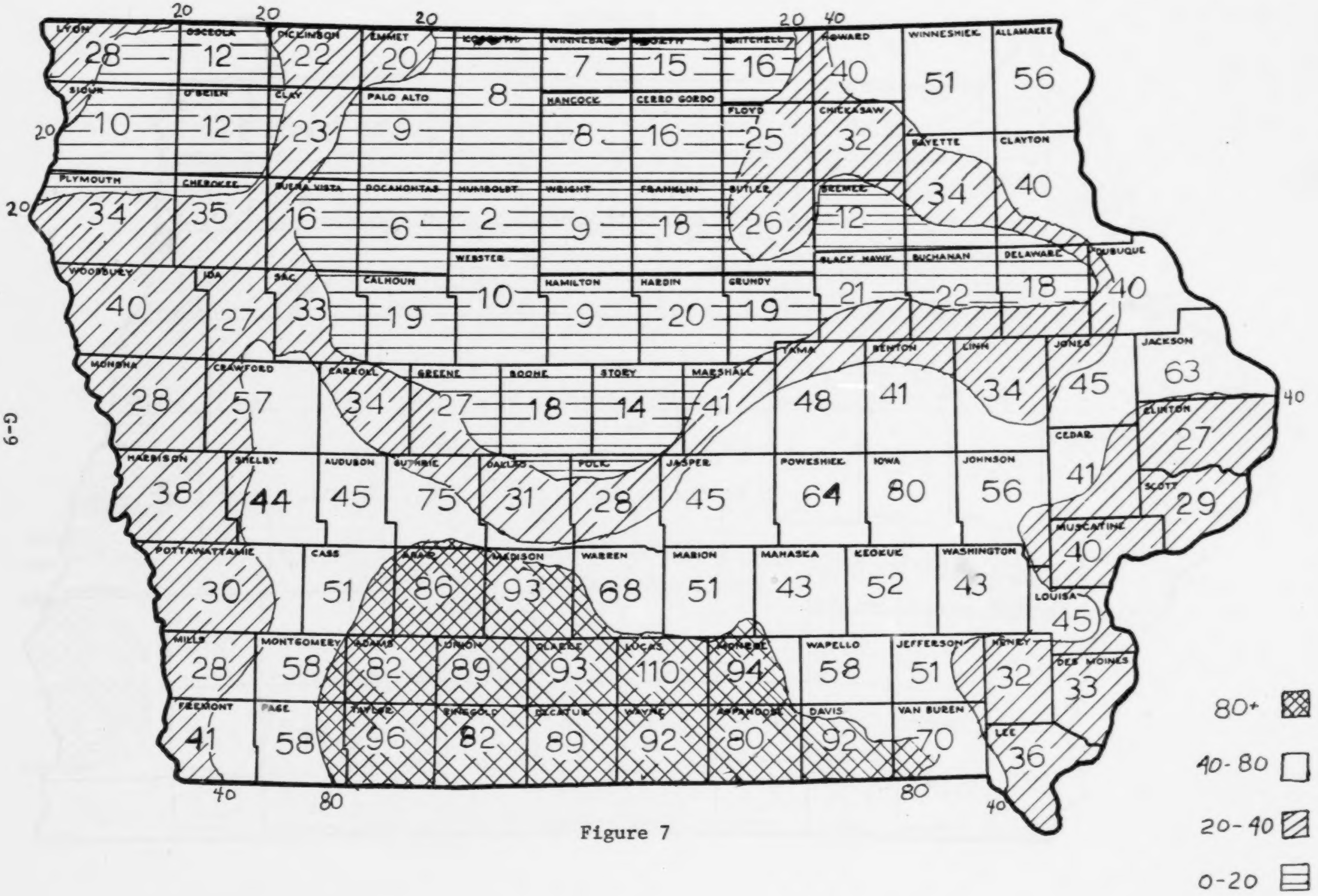
DICKINSON 17
EMMET 15
KOSSUTH 10
WINNEBAGO 7
WORTH 12
MITCHELL 12
HOWARD 28
WINNESHIEK 34
ALLAMAKEE 38
SIOUX 6
O'BRIEN 10
CLAY 16
PALO ALTO 7
HANCOCK 11
CERRO GORDO 14
FLOYD 17
CHICKASAW 22
FAYETTE 19
CLAYTON 25
PLYMOUTH 21
CHEROKEE 22
BUENA VISTA 12
POCAHONTAS 8
HUMBOLDT 6
WRIGHT 9
FRANKLIN 14
BUTLER 19
BREMER 8
WOODBURY 24
IDA 21
SAC 23
CALHOUN 16
WEBSTER 11
HAMILTON 9
HARDIN 17
GRUNDY 17
BLACK HAWK 14
BUCHANAN 16
DELAWARE 12
DUBUQUE 26
MONONA 16
CRAWFORD 36
CARROLL 28
GREENE 20
BOONE 16
STORY 12
MARSHALL 31
TAMA 36
BENTON 32
LINN 24
JONES 29
JACKSON 46
CLINTON 21
HARRISON 23
SHELBY 30
AUDUBON 30
GUTHRIE 47
DALLAS 21
POLK 19
JASPER 36
POWESHIEK 47
IOWA 53
JOHNSON 39
CEDAR 30
SCOTT 21
POTTAWATTAMIE 19
CASS 38
ADAIR 59
MADISON 57
WARREN 44
MARION 34
MAHASKA 29
KEOKUK 37
WASHINGTON 28
MUSCATINE 28
LOUISA 29
MILLS 19
MONTGOMERY 35
ADAMS 56
UNION 57
CLARKE 58
LUCAS 64
MONROE 61
WAPELLO 36
JEFFERSON 35
HENRY 28
DES MOINES 27
FREMONT 25
PAGE 38
TAYLOR 60
RINGGOLD 55
DECATUR 58
WAYNE 60
APPANOOSE 53
DAVIS 53
VAN BUREN 44
LEE 26
10
10
10
10
10
10
30
30
30
30
30
50
50
30
50+ ▩
30.-50 ☐
10-30 ▨
0-10 ▤

Figure 6

Beef Cow - 1980
(number of head per square mile)



Lyon 28
Osceola 12
Dickinson 22
Emmet 20
Kossuth 8
Winnebago 7
Worth 15
Mitchell 16
Howard 40
Winneshiek 51
Allamakee 56
Sioux 10
O'Brien 12
Clay 23
Palo Alto 9
Hancock 8
Cerro Gordo 16
Floyd 25
Chickasaw 32
Fayette 34
Clayton 40
Plymouth 34
Cherokee 35
Buena Vista 16
Pocahontas 6
Humboldt 2
Wright 9
Franklin 18
Butler 26
Bremer 12
Webster 10
Woodbury 40
Ida 27
Sac 33
Calhoun 19
Hamilton 9
Hardin 20
Grundy 19
Black Hawk 21
Buchanan 22
Delaware 18
Dubuque 40
Monona 28
Crawford 57
Carroll 34
Greene 27
Boone 18
Story 14
Marshall 41
Tama 48
Benton 41
Linn 34
Jones 45
Jackson 63
Clinton 27
Harrison 38
Shelby 44
Audubon 45
Guthrie 75
Dallas 31
Polk 28
Jasper 45
Poweshiek 64
Iowa 80
Johnson 56
Cedar 41
Scott 29
Muscatine 40
Pottawattamie 30
Cass 51
Adair 86
Madison 93
Warren 68
Marion 51
Mahaska 43
Keokuk 52
Washington 43
Louisa 45
Mills 28
Montgomery 58
Adams 82
Union 89
Clarke 93
Lucas 110
Monroe 94
Wapello 58
Jefferson 51
Henry 32
Des Moines 33
Fremont 41
Page 58
Taylor 96
Ringgold 82
Decatur 89
Wayne 92
Appanoose 80
Davis 92
Van Buren 70
Lee 36
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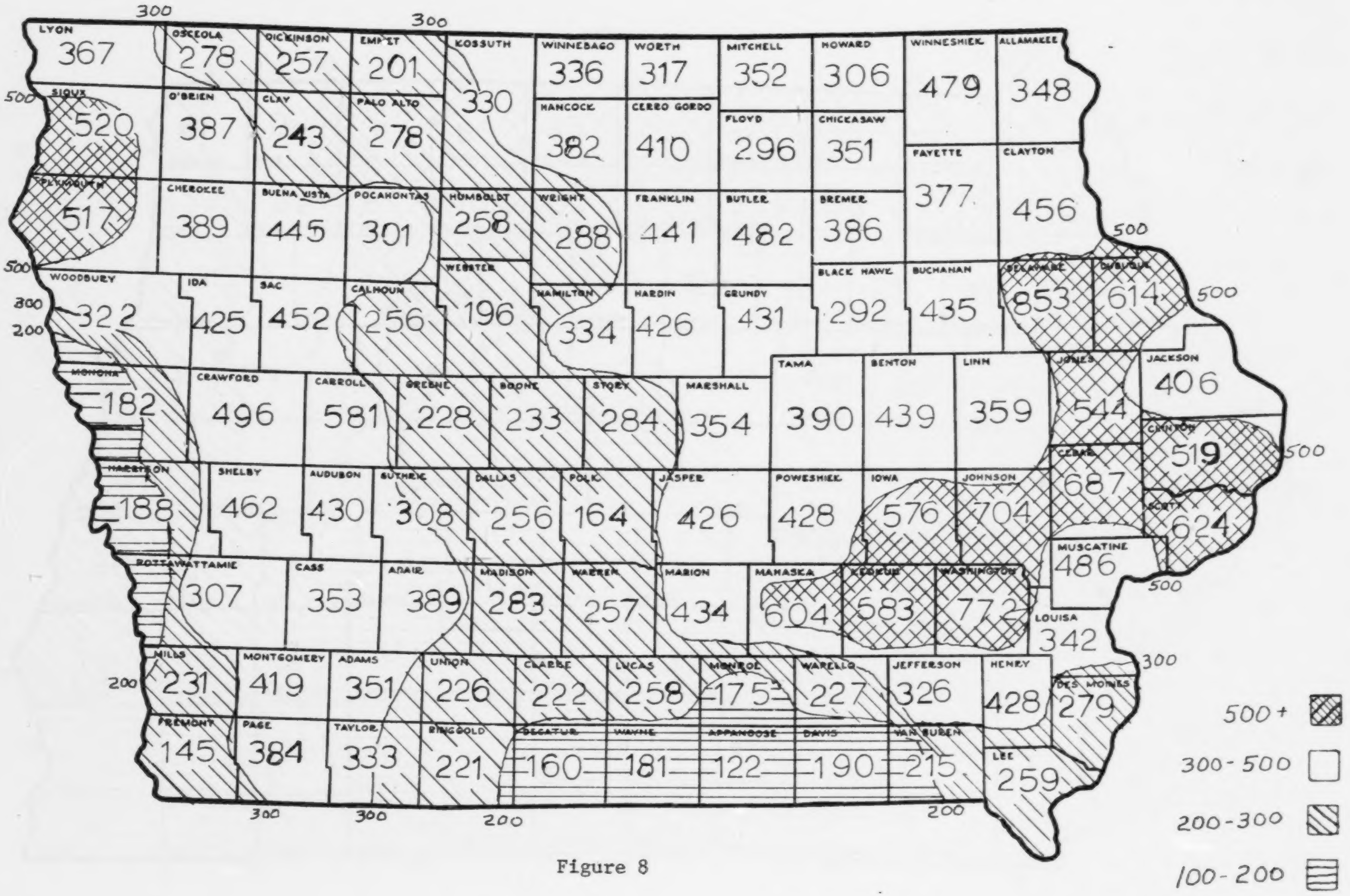
20
20
20
20
40
20
20
40
40
80
80
40
80+ ▩
40-80 ☐
20-40 ▨
0-20 ▤

Figure 7

Hogs Marketed - 1969
(number of head per square mile)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DICKINSON 257
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WORTH 317
MITCHELL 352
HOWARD 306
WINNESHIEK 479
ALLAMAKEE 348
SIOUX 520
O'BRIEN 387
CLAY 243
PALO ALTO 278
HANCOCK 382
CERRO GORDO 410
FLOYD 296
CHICKASAW 351
FAYETTE 377
CLAYTON 456
PLYMOUTH 517
CHEROKEE 389
BUENA VISTA 445
POCAHONTAS 301
HUMBOLDT 258
WRIGHT 288
FRANKLIN 441
BUTLER 482
BREMER 386
WOODBURY 322
IDA 425
SAC 452
CALHOUN 256
WEBSTER 196
HAMILTON 334
HARDIN 426
GRUNDY 431
BLACK HAWK 292
BUCHANAN 435
DELAWARE 853
DUBUQUE 614
MONONA 182
CRAWFORD 496
CARROLL 581
GREENE 228
BOONE 233
STORY 284
MARSHALL 354
TAMA 390
BENTON 439
LINN 359
JONES 544
JACKSON 406
CLINTON 519
HARRISON 188
SHELBY 462
AUDUBON 430
GUTHRIE 308
DALLAS 256
POLK 164
JASPER 426
POWESHIEK 428
IOWA 576
JOHNSON 704
CEDAR 687
SCOTT 624
POTTAWATTAMIE 307
CASS 353
ADAIR 389
MADISON 283
WARREN 257
MARION 434
MAHASKA 604
KEOKUK 583
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MUSCATINE 486
LOUISA 342
MILLS 231
MONTGOMERY 419
ADAMS 351
UNION 226
CLARKE 222
LUCAS 258
MONROE 175
WAPELLO 227
JEFFERSON 326
HENRY 428
DES MOINES 279
FREMONT 145
PAGE 384
TAYLOR 333
RINGGOLD 221
DECATUR 160
WAYNE 181
APPANOOSE 122
DAVIS 190
VAN BUREN 215
LEE 259
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500
500
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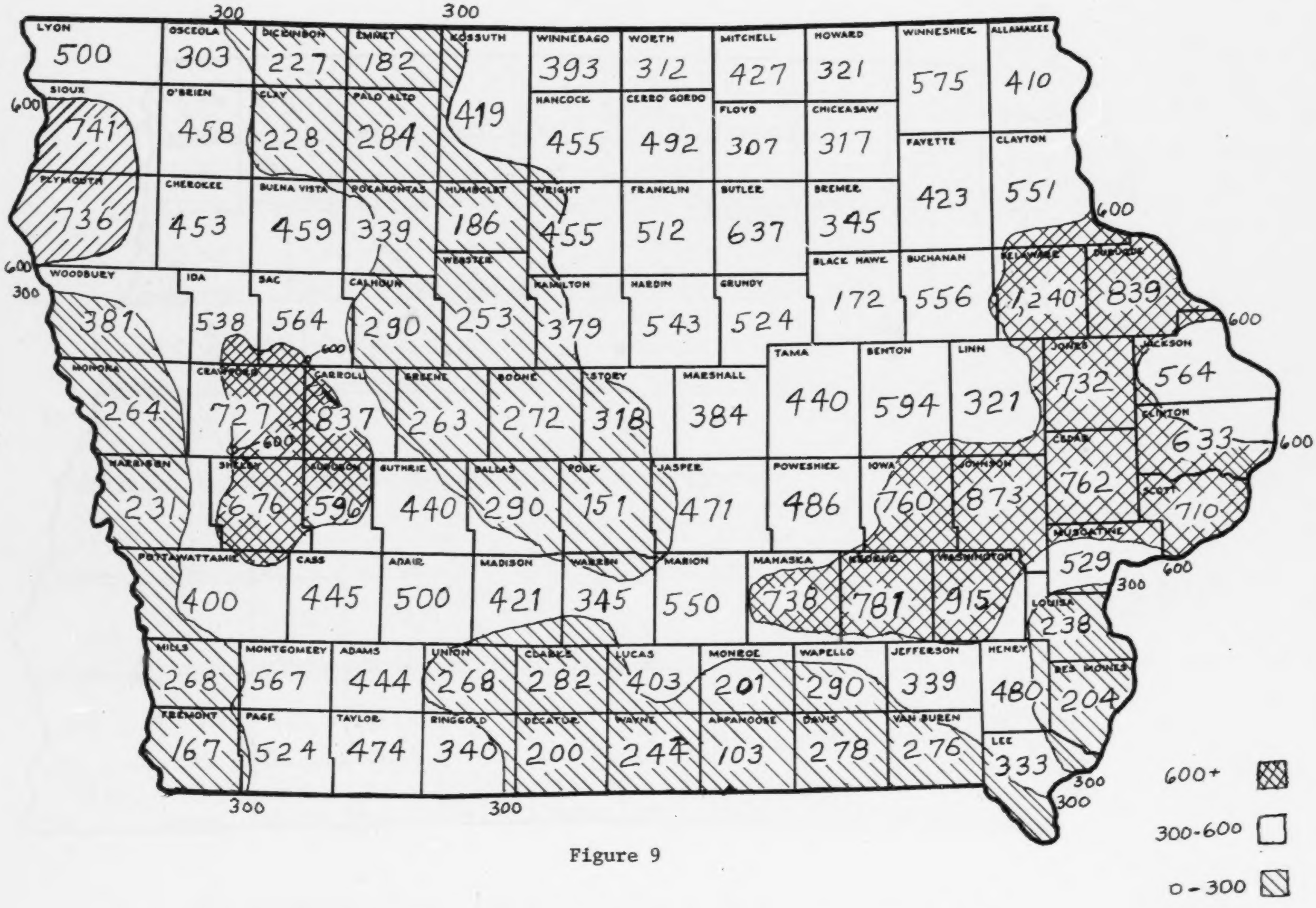
500
500
300
200
300
300
200
200
500+ ▨
300-500 ☐
200-300 ▧
100-200 ▤

Figure 8

Hogs Projected - 1980
(number of head per square mile)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WORTH 312
MITCHELL 427
HOWARD 321
WINNESHIEK 575
ALLAMAKEE 410
SIOUX 741
O'BRIEN 458
CLAY 228
PALO ALTO 284
HANCOCK 455
CERRO GORDO 492
FLOYD 307
CHICKASAW 317
FAYETTE 423
CLAYTON 551
PLYMOUTH 736
CHEROKEE 453
BUENA VISTA 459
POCAHONTAS 339
HUMBOLDT 186
WRIGHT 455
FRANKLIN 512
BUTLER 637
BREMER 345
WEBSTER 253
BLACK HAWK 172
BUCHANAN 556
DELAWARE 1,240
DUBUQUE 839
WOODBURY 381
IDA 538
SAC 564
CALHOUN 290
HAMILTON 379
HARDIN 543
GRUNDY 524
TAMA 440
BENTON 594
LINN 321
JONES 732
JACKSON 564
MONONA 264
CRAWFORD 727
CARROLL 837
GREENE 263
BOONE 272
STORY 318
MARSHALL 384
CLINTON 633
HARRISON 231
SHELBY 676
AUDUBON 596
GUTHRIE 440
DALLAS 290
POLK 151
JASPER 471
POWESHIEK 486
IOWA 760
JOHNSON 873
CEDAR 762
SCOTT 710
POTTAWATTAMIE 400
CASS 445
ADAIR 500
MADISON 421
WARREN 345
MARION 550
MAHASKA 738
KEOKUK 781
WASHINGTON 915
MUSCATINE 529
LOUISA 238
MILLS 268
MONTGOMERY 567
ADAMS 444
UNION 268
CLARKE 282
LUCAS 403
MONROE 201
WAPELLO 290
JEFFERSON 339
HENRY 480
DES MOINES 204
FREMONT 167
PAGE 524
TAYLOR 474
RINGGOLD 340
DECATUR 200
WAYNE 244
APPANOOSE 103
DAVIS 278
VAN BUREN 276
LEE 333
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300
600
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600
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600
600
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300
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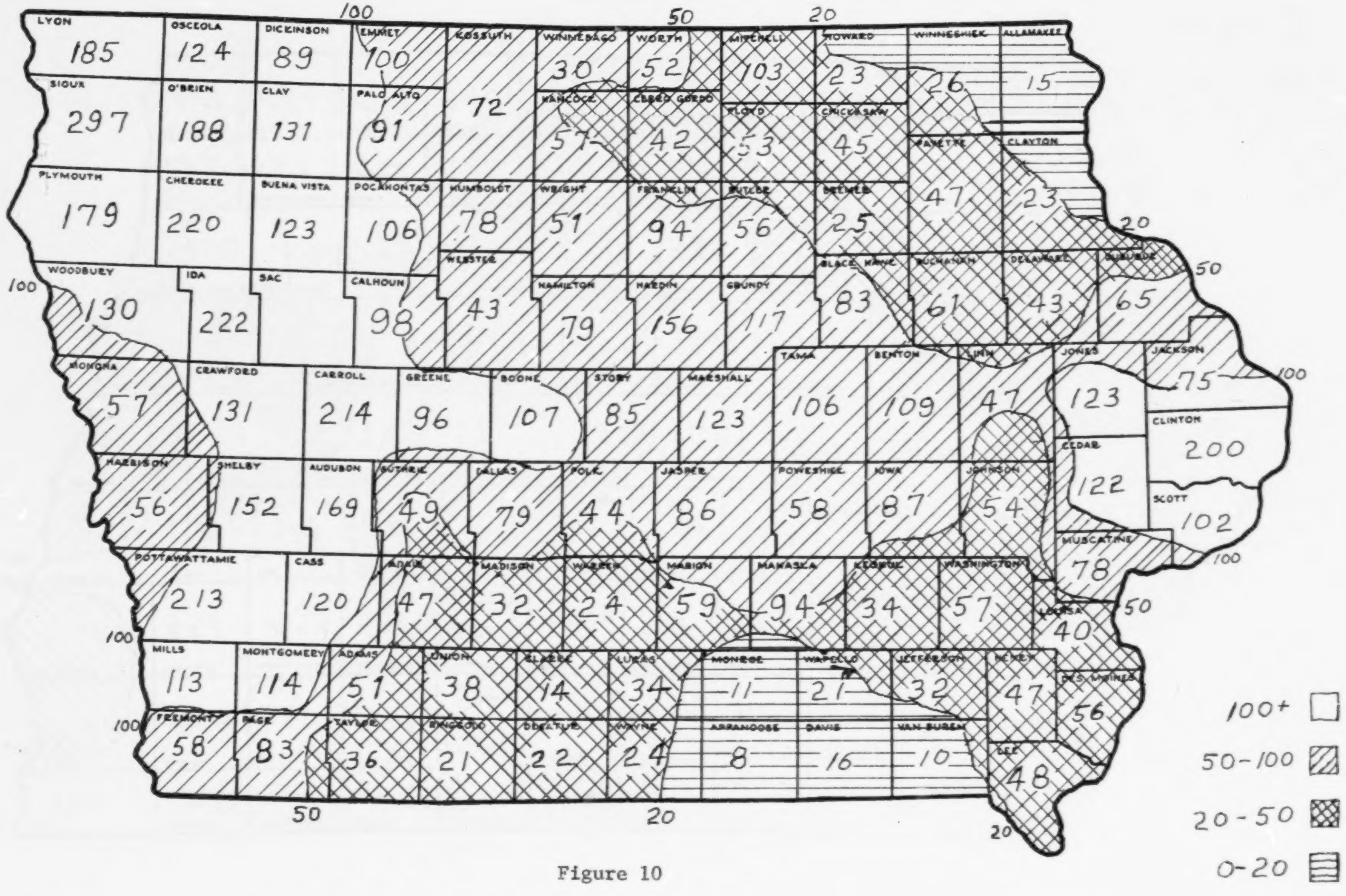
300
600+ ▩
300-600 □
0-300 ▨

Figure 9

Grain Fed Cattle Marketed - 1969
(number of head per square mile)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DICKINSON 89
EMMET 100
KOSSUTH 72
WINNEBAGO 30
WORTH 52
MITCHELL 103
HOWARD 23
WINNESHIEK 26
ALLAMAKEE 15
SIOUX 297
O'BRIEN 188
CLAY 131
PALO ALTO 91
HANCOCK 57
CERRO GORDO 42
FLOYD 53
CHICKASAW 45
FAYETTE 47
CLAYTON 23
PLYMOUTH 179
CHEROKEE 220
BUENA VISTA 123
POCAHONTAS 106
HUMBOLDT 78
WRIGHT 51
FRANKLIN 94
BUTLER 56
BREMER 25
WOODBURY 130
IDA 222
SAC
CALHOUN 98
WEBSTER 43
HAMILTON 79
HARDIN 156
GRUNDY 117
BLACK HAWK 83
BUCHANAN 61
DELAWARE 43
DUBUQUE 65
MONONA 57
CRAWFORD 131
CARROLL 214
GREENE 96
BOONE 107
STORY 85
MARSHALL 123
TAMA 106
BENTON 109
LINN 47
JONES 123
JACKSON 75
CLINTON 200
HARRISON 56
SHELBY 152
AUDUBON 169
GUTHRIE 49
DALLAS 79
POLK 44
JASPER 86
POWESHIEK 58
IOWA 87
JOHNSON 54
CEDAR 122
SCOTT 102
POTTAWATTAMIE 213
CASS 120
ADAIR 47
MADISON 32
WARREN 24
MARION 59
MAHASKA 94
KEOKUK 34
WASHINGTON 57
MUSCATINE 78
LOUISA 40
MILLS 113
MONTGOMERY 114
ADAMS 51
UNION 38
CLARKE 14
LUCAS 34
MONROE 11
WAPELLO 21
JEFFERSON 32
HENRY 47
DES MOINES 56
FREMONT 58
PAGE 83
TAYLOR 36
RINGGOLD 21
DECATUR 22
WAYNE 24
APPANOOSE 8
DAVIS 16
VAN BUREN 10
LEE 48
100
50
20
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20
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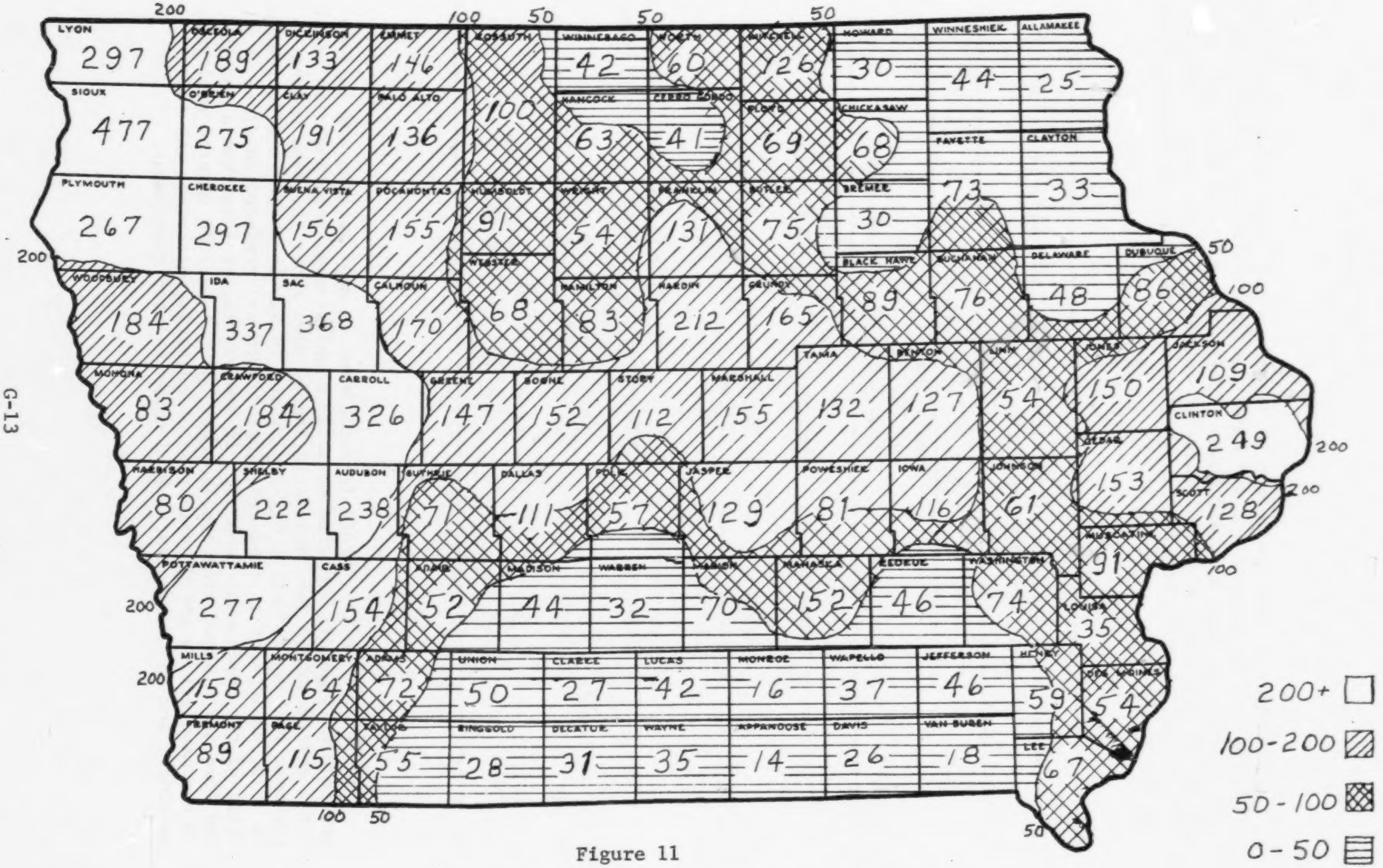
50
100
100
50
20
20
100+ ☐
50-100 ▨
20-50 ▩
0-20 ▤

Figure 10

Grain Fed Cattle Projected - 1980
(number of head per square mile)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EMMET 146
KOSSUTH 100
WINNEBAGO 42
WORTH 60
MITCHELL 126
HOWARD 30
WINNESHIEK 44
ALLAMAKEE 25
SIOUX 477
O'BRIEN 275
CLAY 191
PALO ALTO 136
HANCOCK 63
CERRO GORDO 41
FLOYD 69
CHICKASAW 68
FAYETTE 73
CLAYTON 33
PLYMOUTH 267
CHEROKEE 297
BUENA VISTA 156
POCAHONTAS 155
HUMBOLDT 91
WRIGHT 54
FRANKLIN 131
BUTLER 75
BREMER 30
BLACK HAWK 89
BUCHANAN 76
DELAWARE 48
DUBUQUE 86
WOODBURY 184
IDA 337
SAC 368
CALHOUN 170
WEBSTER 68
HAMILTON 83
HARDIN 212
GRUNDY 165
TAMA 132
BENTON 127
LINN 54
JONES 150
JACKSON 109
MONONA 83
CRAWFORD 184
CARROLL 326
GREENE 147
BOONE 152
STORY 112
MARSHALL 155
CLINTON 249
HARRISON 80
SHELBY 222
AUDUBON 238
GUTHRIE 71
DALLAS 111
POLK 57
JASPER 129
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IOWA 116
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APPANOOSE 14
DAVIS 26
VAN BUREN 18
LEE 67
200
100
50
200+ ☐
100-200 ▨
50-100 ▩
0-50 ▤

Figure 11

A summary of the production of important U.S. farm commodities is given in Table 1. The projections indicate that Iowa will gain in its share of corn, soybeans, hogs and beef cows. It is expected that Iowa will lose ground in its share of oats, grain-fed cattle and dairy cows. It is not the purpose of this report to suggest ways in which the indicated losses may be prevented.

Table 1. Grain and livestock production in Iowa and Iowa's share of U.S. production, 1969 and projections to 1980.

	1969		1980	
Commodity	Production	Iowa's Share of U.S. Production	Production	Iowa's Share of U.S. Production
	Millions of Bushels	Percent	Millions of Bushels	Percent
Corn	0.93	20.3	1.41	22.0
Soybeans	0.17	15.4	0.30	20.2
Oats	0.09	9.8	0.06	7.1
	Millions of Head	Percent	Millions of Head	Percent
Fed cattle (sold)	4.6	18.5	6.4	17.0
Hogs (sold)	19.6	22.2	25.2	25.6
Beef cows	1.4	4.0	0.57	4.2
Dairy cows	2.1	4.0	0.34	3.4

Table 2 shows the change in employment in meat packing and in food and related products compared to total manufacturing employment in Iowa. Total employment in food manufacturing is down about the same amount as in the meat packing industry, but employment in manufacturing has increased. In 1959, employment in food and kindred products represented close to a third of the employment; however, it now represents less than a fourth. The food and kindred products, however, do not include related employment in the manufacture and distribution of packaging materials and food machinery and in transportation and other related employment.

Table 2. Total employment in manufacturing, food and kindred products and in meat packing in thousands of employees in selected years, Iowa.a/

Year	Total manufacturing	Total food and kindred products	Meat packing
1959	176	53.0	25.2
1966	200	47.0	22.1
1968	214	48.2	22.6
1969	219	49.2	23.3
1970	214	50.0	24.3

a/ Source: County Business Patterns, Iowa, U. S. Department of Commerce, Bureau of the Census.

The food processing industries have and will continue to make a contribution to rural community development. These industries largely consist of profit-making for their stockholders or members. Therefore, these industries are not concerned with how increased income and employment resulting from their activities is distributed over the entire population. As shown in Table 3, the income and employment multipliers for the agricultural processing industries are very high relative to other sectors of the economy. The income multiplier is the highest of all sectors, and the employment multiplier is second only to manufacturing.

Furthermore, the greatest leakage for both multipliers occurs in the agricultural processing sector. Thus, if additional investment in this sector and in sectors supplying inputs for food processing were feasible, it could result in a significant stimulus to the economy.

Meat Packing

During the 1960's, there was a significant trend toward single-plant kill-and-chill beef slaughtering operations that specialize in hanging dressed beef. Between 1962 and 1970, there were 20 new beef slaughtering

Table 3. Income and employment multiplier and leakages by sectors of the Oklahoma economy. a/

Sector	Income		Income	
	Multiplier	Leakages	Multiplier	Leakages
Livestock and livestock products	2.81	.04	----	---
Crops	1.40	---	----	---
Agricultural processing	4.32	.11	2.82	.07
Manufacturing	3.35	.01	2.93	---
Transportation, communication and public utilities	1.44	---	1.45	.05
Real estate, finance and insurance	1.46	.01	1.55	---
Services	1.58	---	1.33	---
Wholesale and retail	1.28	---	1.32	---
Mining	1.57	---	2.56	---

a/ Source: Litte, Charles H. and Gerald A. Docksen "Measurement of Leakage by the Use of an Input-Output Model", American Journal of Agricultural Economics Volume 50, Number 4, November, 1968.

plants established in an eight-state area (Iowa, Missouri, Kansas, Nebraska, Colorado, North Dakota, South Dakota and Minnesota). Sixty-five percent of these new plants were the specialized kill-and-chill operations.[2] One of the reasons for the rapid expansion of this type of plant is that most of the beef now sold is merchandised in carcass form. No brand name is needed to enter this market because the carcasses are sold on USDA grades. Many of these plants were built by new firms entering the market. These firms have made rapid growth, and some have become dominant firms in the industry.

The expansion potential for the slaughtering industry appears to be limited by excess capacity. It is estimated that in 1970, with 4.8 million head of fed cattle marketed in Iowa, the existing slaughtering plants operated at 75 percent of capacity on a 40-hour week.[3]

Based on an estimated 6.4 million head of fed-cattle to be marketed in Iowa in 1980, or a 33 percent increase in fed-cattle marketed, present slaughtering capacity would need to operate at about 108 percent based on a 40-hour week. This level of utilization would probably be more profitable on an overtime basis than through additional capacity because fringe benefits are not paid on overtime wages and no additional fixed costs are incurred.

---

[2] Moser, David E. "Beef Slaughter Plant Location: Factors Influencing the Location Decisions of the Firm", Unpublished Ph.D. thesis, Columbia University, New York, N.Y., 1970.

[3] Estimate by J. Marvin Skadberg, Department of Economics, Iowa State University

Thus, it appears that little additional beef slaughtering capacity is needed before 1980.

The situation in pork slaughtering and processing is somewhat different than in beef slaughtering. Most of the beef is still sold by the slaughtering plant in carcass form. Pork, on the other hand, is usually processed in the plant where it is slaughtered. Attempts to develop specialized kill-and-chill pork slaughtering plants have been relatively unsuccessful. One of the reasons is that many pork cuts are retailed under brand names, making it difficult for new firms to enter the market.

The opportunities for expansion in the pork slaughtering industry are much the same as for beef slaughtering. Substantial growth is expected in the number of hogs marketed in Iowa by 1980. Projections suggest that the number of hogs marketed will increase 25 percent from 1970 to 1980--from 20 million to 25 million head. It is estimated that in 1970 the existing slaughtering and processing plants operated at 80 percent of capacity on a 40-hour-week basis.[4]

Thus, the present facilities could slaughter and process the 25 million head of hogs operating at 105 percent of capacity. This level of utilization would probably be more profitable than the addition of new facilities. However, a number of the existing plants in Iowa are old, relatively inefficient facilities. Some of these plants might be replaced during the 70's. Some expansion in total capacity and possible relocation could result from these replacements.

In summary, there appears to be limited opportunity for new jobs and plants in the traditional types of beef and pork slaughtering industries. New investments and new locations are more likely to be the result of replacement of existing hog slaughtering and processing plants rather than in new plants.

Impact of Transportation on Slaughtering Plant Locations

If there will be additional investments in meat packing facilities in Iowa, where will they be located? The most important factor in slaughter plant location is the supply of livestock. A recent study by Moser indicated that transportation rates and service to major markets ranked second to livestock supply in beef plant locations.[5]

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[4] Estimate by J. Marvin Skadberg.

[5] Moser, David E. "Transportation as a Factor in Industrial Development," in "Guide to Industrial Development" Prentice Hall, Inc., Englewood Cliffs, N.J., Forthcoming.

An increasing proportion of meat and meat products is transported by truck. Hence, truck rates, costs, and services are of increasing importance to slaughter plant location. Baker recently developed a motor carrier cost function which highlights this.[6] The basic cost function is:

$$TC_{mc} = [\alpha u + w_p\ (hr_p) + f\ (hr_a)\ ]\ [1 + (1 - \text{prob bal}_r)\ ]$$

where:

TC_{mc} = the total transport cost by motor carrier

prob bal_r = the probability of a revenue balance against the outbound movement or the average revenue the vehicle will develop on the return move.

αu = the fixed cost of ownership of the power unit and its supporting trailers divided by the total number of days of utilization per year.

w_p = actual fully costed wage paid.

hr_p = hours paid for--not necessarily worked

f = fuel cost per hour

hr_a = hours actually operated--not necessarily the same as hours paid

The meaning of this cost function is that the total cost of transporting a commodity out of a community is, in part, a function of obtaining a revenue on the return haul. If no revenue is obtained on the return trip, the cost could be as much as double that when revenue is obtained on the return trip. The probability of getting return revenue is greater if the outbound freight originates in a large community rather than in a small community. Thus, transportation costs will encourage the location of slaughtering plants in central cities in Iowa, where a relatively large amount of imports will provide a supply of low-cost motor carrier services for outbound traffic. The actual location will depend on the cost of transporting livestock to the plant and the cost of transporting meat to the retail markets to obtain the lowest total transportation cost.

Grain Gathering and Processing

Soybean production has grown rapidly in Iowa in the past 15 years. During the 1960's when the major growth in soybean production took place in the Midwest, most of the new processing plants were located close to the production. One of the reasons that the processed soybean oil meal represents 78 percent of the weight of the soybean, while only 22 percent of the weight is soybean oil. Because most of the weight of the processed product is fed to livestock and, during the 1960's, most of the livestock was located in the soybean-producing area, the economic location of the processing plant was at the production points to avoid back-haul of the oil meal. In the mid- to late-1960's, cattle production began moving west and south of the soybean-producing areas. Poultry, which is the largest consumer of soybean meal, essentially completed its shift to the south and southeast. At the same time major changes began occurring in railroad transportation rates. Since 1968 rail rates have increased approximately 25 percent. Innovations in the movement of raw grains, such as multiple-car and unit-train shipments, developed in the late 1960's and early 1970's. The present rates of these types of movements are at approximately the same level as single-car rates were in 1968. Moreover, the rates on processed grains have traditionally been higher than on raw grains. The recent across-the-board percentage-rate increases have widened the gap between processed and raw grain rates. Thus, the multiple-car and unit-train rate adjustments have resulted in significantly lower shipping cost for beans than for meal. In this stiuation, the economic location of soybean processing tends to be in areas where soybean meal is in demand. This has resulted in excess soybean processing capacity in Iowa. It is estimated that the optimal soybean processing capacitv in Iowa in 1975 will be approximately 2 million tons per year compared with the present capacity of 2.6 million tons per year.[7] Thus, there appears to be little opportunity for additional development of the soybean processing industry in Iowa.

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[6] Baker, Forrest, "The Role of Transportation in Population Distribution," Unpublished paper, Transportation Research and Marketing, Salt Lake City, Utah.

A similar situation exists in the corn processing industry. Historically, transit privileges on rail shipments have permitted corn processing to be located at or near corn producing areas, usually along a major river for access to barge transport. In Iowa, most of the corn processors are located along the Mississippi River. The rate adjustments on processed products and raw grain, coupled with the elimination of the transit privileges, are inducing corn processors to move closer to the food markets in the east. Recently, a large corn processing plant was located in Ohio and another in Pennsylvania. At the present time, corn processing capacity in Iowa totals approximately 98,400,000 bushels per year. This capacity includes a processing plant which opened late in 1971. These plants are presently operating at about 90 percent of capacity.[8] It is expected that additional corn will be processed in Iowa until plant utilization reaches 100 percent and that little or no additional capacity is expected to be located in Iowa.

The grain gathering function is performed largely by local country elevators. Grain gathering will be dominated by four major variables. These are:

a. Trends in grain production
b. Trends in harvesting methods
c. Multiple rail car transportation rates
d. Railroad abandonment

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[7] Free, W. Joe, "The Future of the South in the Soybean Producing Industry, 1975", Bulletin No. 168, Southern Cooperative Series Tennessee Valley Authority, Muscle Shoals, Alabama, November, 1971.

[8] Discussions with industry executives.

As shown in Table 1, grain production in Iowa is expected to increase substantially during the 1970's. This trend, coupled with the economics of size in grain production and the relative costs of labor, is encouraging farmers to shift to field-shell and combine-harvesting methods.

The recent trend to field shelling of corn and to four and six row combines has had a significant effect in reducing the length of the harvest season. Furthermore, field shelling allows corn to be harvested earlier at a higher moisture content. This means that the corn must be dried and stored in grain storage facilities rather than in the traditional, ear-corn cribs. Preliminary estimates have been made of the amount of additional investments in grain receiving, storage, and drying facilities in country elevators in a 6½ county area in the Fort Dodge area.

Table 4. Preliminary estimates of the percent increase in grain receiving, drying and storage requirements from 1970 to 1980 in 94 country elevators in the Fort Dodge, Iowa area.

Type of Facility	Percent Increase
Receiving	93
Drying	80
Storage	
Constant Shipping Pattern	37
Hedging Shipping Pattern	68

In addition to the investments required from increased grain production and changing harvesting methods, the changing freight rate structure will encourage additional investments in grain-gathering facilities. Since the late 1960's, the railroads have been developing rates on multiple-car shipments that are, in some cases, significantly lower than rates on single-car shipments. For example, one railroad operating in Iowa has a 54-car, unit-train rate that is approximately 16 percent below the single-car rate. Another railroad has proposed a rate on a 50-car train that is approximately 17 percent lower than the present single-car rate. A third railroad has proposed a rate on a 115-car unit-train from Illinois to New Orleans that is 32 percent below present single-car shipments. A considerable amount of investment in existing facilities is required to take advantage of the unit-train rates. The investment required varies from $350,000 to $500,000, depending on the size of the train. A completely new location would require approximately $2.5 million to utilize the unit-train.

The fourth and most important factor in grain gathering in Iowa is railroad abondonment. Estimates of the amount of track to be abandoned in Iowa during the 1970's range from 20 to 50 percent of the rail mileage. Obviously, this will restrict the rate of growth of country elevators in the grain surplus areas of the state, particularly those located 100 miles or more from the Mississippi River. The country elevator is the largest employer in many small communities. Thus, grain gathering will be a growing activity in many communities but will tend to have a lower rate of growth or no growth at all in communities located on abandoned railroads.

New Developments in Food Processing

Changing demands for the form in which food is delivered to the ultimate consumer is creating major new development opportunities in the food processing industries. Restaurants, hospitals, colleges, schools, business offices, industrial plants, government installations, the armed forces, and retirement homes are closing down their conventional kitchens. Some are buying foods that only need to be heated before serving. Others are contracting for food service. Housewives are buying increasing volumes of nearly ready-to-serve foods in retail stores and from fast-service carry-out restaurants.

The major reasons for the increasing demands for nearly ready-to-serve foods are:

1. Increased labor costs force restaurants and other institutions to seek labor-saving improvements. Substitution of capital for labor requires large-scale assembly and preparation of ready or nearly ready-to-serve foods.

2. Institutions require reliable, stable supplies of standard-quality foods.

3. Higher incomes and growing numbers of working women are creating larger demands for these types of foods.

What are the implications of this development for Iowa? An increasing number of beef slaughter plants are breaking a portion of their carcasses into primal wholesale cuts. Some are experimenting with and others are already fabricating and packaging portion control cuts that go directly to the retail shelf and to restaurants and institutions. For example, one new firm in central Iowa cuts beef liver into 4-ounce pieces. This firm also has recently begun to prepare hamburger patties and other fabricated products for quick-serve restaurants. One turkey processing plant in southeast Iowa produces further-processed items. This plant uses both frozen and unfrozen whole turkeys as inputs and operates on a year-round basis. Approximately 25 percent of the total turkey tonnage in Iowa is in further-processed form. Others are developing the techniques for processing and merchandising of packaged consumer-ready frozen beef and beef-based products. These developments are well underway.

Table 5 shows the rapid growth of this type of activity between 1966 and 1970. The production of portion control cuts under federal inspection increased 700 percent in a 4-year period. Hamburger patties doubled and frozen dinners increased from zero to over 1 billion pounds.

Why should this development take place in Iowa and at other meat producing areas? The primary reason is that there are substantial cost economies in breaking carcasses at the slaughter plants. These economies are primarily related to transportation and bulk volume. The main cost advantage in breaking carcasses at the slaughtering plant rather than at the retail market is in the reduction of the weight to be transported to market. Breaking the carcass into boneless retail cuts results in a 55-percent reduction in the amount of weight to be transported.[9] Other cost economies are gained by keeping the fat and bone at the slaughter plant to be further processed into other products. Thus, fat and bone have a positive value at the slaughter plant and a negative value at the retail level. Also, the fabricated products are easier to load than the hanging carcass, losses in-transit are reduced and larger payloads can be shipped in a given volume and mode of transport. For example, only 85,000 pounds of carcass can be shipped in a jumbo refrigerated rail car whereas 140,000 pounds of packaged meat can be shipped in the same size car. One industry executive has estimated that this develop-

Table 5. Selected prepared meat products under federal inspection in billions of pounds, United States, 1966, 1968, and 1970. a/

Product	1966	1968	1970
Portion control cuts	0.9	2.7	6.3
Hamburger	0.5	0.7	1.0
Frozen dinners	---	0.6	1.0
TOTAL	1.4	4.0	8.3

a/ Source: Livestock and Meat Statistics, Supplement for 1970 to Statistical Bulletin No. 333, U.S. Department of Agriculture, Economic Research Service.

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[9] USDA Yield Grade for Beef, Consumer and Marketing Service, U.S.D.A., Marketing Bulletin No. 45, July 1968.

ment alone could more than double employment in the meat packing industry in Iowa by 1980. In effect, further breaking at the slaughter plant transfers the job of the butcher in Philadelphia to Iowa. Therein, however, arises a major obstacle in the growth of this type of employment in Iowa. Labor unions are resisting this development. Moreover, retail stores have been slow in selling packaged products. One of the reasons is a lack of a complete line of fabricated products. Consequently, requiring the operation of some cutting operations as well as understanding of how to merchandise these products and of the role of the meat cutters in a system handling self-ready products.

The rapid growth in the production of the frozen complete-dinner has been a recent development. The frozen dinner is not a new concept. The concept of having fresh and processed food commodities assembled and prepared into nearly-ready-to-serve food in large commissaries and then used as component parts of meals for a large proportion of the nations population is net, however. Microwave ovens and throw-away dishes, pots, and pans will hasten this trend.[10/]

The near completion of a food processing plant in northwest Iowa to manufacture frozen entrees symbolizes the kickoff of this type of activity in Iowa. The abundance of red meats, chicken, eggs, turkey, manufactured dairy products, vegetables and fruits from both Iowa and neighboring states provides Iowa with growth potential in the preparation of ready-to-serve and ready-prepared frozen entrees for complete dinners. Furthermore, there is no labor union opposition to the development of these industries. The multiplier effects of this growth would stimulate growth of the industries supplying packaging materials, carbon dioxide, food processing machinery and transportation.

There is also potential for growth in Iowa in the development of new products like margarine and other spreads from the abundance of edible fat and oil by-products from livestock and soybean processing. Just recently, a new margarine manufacturing plant was built in northwest Iowa which uses soybean oil to manufacture margarine. Other new products which may have potential for growth in Iowa include soybean and meat analogs. The meat analogs could be developed from presently inedible meat products. Technological assistance to firms contemplating entry into these products would greatly facilitate the development of this potential in Iowa. The Extension Service appears to be uniquely capable of providing this technological help.

There is limited potential for increased investment and employment in the traditional food processing industries in Iowa. There appears to be

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[10/] Thor, Eric, "Industrialization of Agriculture", Proceedings of the National Agricultural Marketing Conference, Denver, Colorado, April, 1971.

substantial potential, however, for increased investment and employment in the processing of new forms and types of foods.

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PROCESSES OF COMMUNITY DEVELOPMENT

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"There are many questions that must be asked and many answers that must be provided before we can intelligently speak about strategies and processes of development with real-world application and some probability of accomplishing development goals."

"With the increased complexity and speed of change in our society..., neither the high priests of change (the professional change agents) nor the laity (the citizens) can continue a life of celibacy regarding the processes of change."

IN GENERAL TERMS our title might have been just as easily identified as "means and ends", with emphasis on the means, because it has been said that "nobody knows what community development is but everybody is doing it."

To the extent that this is true we are confronted with the task of talking about the means (processes) of accomplishing something we are quite unclear about. Some testimony to this lack of clarity is in the breadth of topics contained within this seminar series, which is rather like a laundry list of items that we hope will be relevant to rural community development. (Parenthetically, both of us have to assume some responsibility for this "shotgun" procedure.) Dr. Heady's paper suggests that the most general goal of rural development is for "policies and programs to redress inequities falling on the disadvantaged groups of our rural communities" (1972, p.2). One level of means, i.e., processes, relative to this general goal can be conceptualized as the policies (e.g., income transfers, direct subsidies, etc.) to ameliorate the problems of disadvantaged groups. The processes of prime concern in this discussion, however, are those involved in _arriving at_ as well as those involved in _instigating and implementing_ policies and programs.

The concept of process is rarely defined in the literature pertaining to planned change. It is not clear whether this stems from an assumption that the meaning is obvious or whether it is because of the difficulty in providing an intensive and extensive definition of the concept. It may well be the latter. For our purposes we see at least the following characteristics of the term "process":

1. "a concept of movement, change, flux..."
2. "a sense of time sequence..."
3. the "dynamic aspect" of social change. (Gould and Kolb, 1964, p. 538)

The original assignment for this paper, and much of the discussion in various meetings, seems to assume that there is _A_ (one) process of community development. If there is such _A_ process, we are not aware of it. Moreover, we don't believe it!

The aim of our presentation is to stimulate thinking about and recognition of the important role of process in community development. While we have cited some sources of literature pertinent to the question, we have not made it our purpose to review the field and develop a "white paper" on the state of the art. Our objectives are more limited and pragmatic to getting on with the business of the Center for Agriculture and Rural Development. Our discussion will center on the following:

1. _A priori_ questions and assumptions relative to development that have a direct bearing on social processes.

2. A typology of processes that may throw into relief questions about what we (Iowa State University faculty members) do in action and research relative to rural community development as well as our relationship to the many other social organizations engaged in "development".

3. Additional issues that bear on the selection of process(es) by various instigators of change.

4. Suggested needs of citizens regarding processes of community development.

5. Suggestions of needed research which relate directly to process and require priority consideration in the allocation of research resources.

There are many conceptualizations of change processes varying from relatively simple decision-making models (steps of decision making) to more complex constructs of social action with as many as 31 functional steps.[1] Much is known about the strategies and processes of social action, social change and development. Much of what is known, however, is descriptive and situational. Prescriptions of strategies and processes are based on a whole series of assumptions and premises, usually not specified.

There are many questions that must be asked and many answers that must be provided before we can intelligently speak about strategies and processes of development with real-world application and some probability of accomplishing development goals. We explore some of these questions and issues in the following comments.

Development, A Normative Concept

Development is a normative, value-laden term. It also is ambiguous. (If both of these were not characteristics of the term, it would not be so popular in political discourse.) It assumes a change from an existing state of affairs to a different state of affairs that normatively some one or all will define as a better state of affairs. Thus, if a given process produced a given change it might be regarded by some as a highly functional process if they value the content of the change highly and positively. Others may value the process as dysfunctional (negatively) because they do not accept the change as being good, or better. Example: There is no doubt that the riots in Watts and Detroit brought about change. Is it development? Some would argue yes, some no. Some would put a positive evaluation on the change (objectives) accomplished but a negative evaluation on the means used. The normative judgment may be applied to either goals (ends) or means, or both. Thus, at a general level we are arguing that the range of development processes and strategies which are acceptable and effective will be somewhat dependent on the normative definition of what constitutes development and what means are acceptable to obtain development, once defined.

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[1] A selected reference list on planned change and social action would include the following: Beal (1958), Bennis, Benne and Chin (1969), Biddle and Biddle (1965,1968), and Lippitt, Watson and Westley (1958).

Development Goals and Objectives

Let's pursue further the idea of development goals or objectives. It is an old saw that the goals of community development are usually couched in such general, abstract and intangible forms that they defy being operationalized into real-world measurable terms. For example, the following have been proposed as the goals of development: increasing group effectiveness in making and implementing decisions concerning the improvement in the quality and level of living of people and to increase human satisfaction through fuller use of resources, improve the quality of life, etc. Such abstract, intangible goals usually lead to goal displacement. (Beal, Coward & Brooks, 1971) While all of these may be goals normatively accepted, it appears to be impossible to specify strategies or processes until these global goals are more specifically operationalized in measurable terms. The process for improving the nutritional level of low income families may differ significantly from that of providing a greater quantity of water-based recreational opportunities or increasing income opportunities by industrial development. And increasing income levels by more efficient farm management may call for different strategies and processes--different change agents, organizational structures, information, techniques, behavioral changes, and target audiences or decision-making groups. The potentially different processes just identified all focus on process differences in achieving objectives. The other major component is the process related to deciding or determining the objectives.

Means are Normative Too

The brief discussion so far has dealt with the normative or idealogical aspects of development--mainly the goals or objectives of development. But the question of the normative aspects of the means to accomplish development were also raised. We believe that a crucial question which must be answered before there can be any specification of strategies or processes of development is that of normative, philosophical or idealogical orientation toward the means to be used to obtain development i.e., the means used to decide on objectives of development. Strategies or processes are regarded as one level of means for development. Unless we know the ideological orientation or the range of acceptable orientations of those attempting to bring about change (be they individuals, groups, change agencies or professional change agents), we believe it is impossible to begin to specify the strategies or processes of change. The presentation of normative or ideological typologies of the range of means for change is difficult and fraught with possible emotional connotations. A five-part typology will be presented to attempt to explain what is meant by normative or ideological orientations and to provide a basis for further discussion and clarification. (Beal, 1964, Chin & Benne, 1969)

1. There is the typology labeled Empirical-Rational which may be judged to be close to what some label pure participatory democracy. The Empirical-Rational approach assumes that all men are rational, and that man will follow his rational self-interest and make rational decisions based on the information he possesses.

   There are a number of possible sub-types and dimensions that should be specified within this typology.

   At one extreme it may be conceived that man possesses the knowledge needed to make the decisions he desires. It may be further conceived that there is no need for overt outside intervention or motivation. This has been labeled by some as "spontaneous" or "natural" social change and development. It involves no overt or directed external force to simulate change.

   Additional sub-types introduce the concept, "change agent", an actor or actors initiating action. The change agent's most passive role is seen as facilitating the interaction process among "rational men". The role of the change agent may be seen as attempting to set up relatively unstructured social interaction situations which will facilitate communication among individuals so they determine what knowledge they have, perhaps pool that knowledge, express their problems and concerns and if motivated, determine goals and objectives and carry out actions that might be taken to alleviate their problems. In this case the change agent does not provide content knowledge regarding problems. He may provide knowledge and skills regarding effective interpersonal communication and decision making.

   A slightly more directive sub-type assumes the above, but also assumes that the change agent will attempt to increase the knowledge base by pulling out and integrating the knowledge possessed by the group involved, by facilitating a rational analysis process and perhaps himself informally providing information.

   These subtypes are all judged to be within the empirical-rational typology.

2. The second general typology may be labeled the Normative, Re-educative. The following are some of the characteristics of this typology:

   a. Direct intervention by change agents based on some theory of changing.

   b. Emphasis on the involvement of the client system in working out changes desired.

   c. The possibility is recognized that the decisions regarding change may be worked more rationally if more adequate technical information is provided--it usually involves an educational component.

d. However, the activities in this typology usually recognize that a major part of the problem may lie in values, attitudes and norms and the external and internal relationships of the client systems. It is assumed that re-educative activities must be carried out for problem clarification-solution, and changes of values, attitudes and norms are a pivotal concern.

e. Value normative issues are clarified openly, value conflicts are discussed and ameliorated in the open, through mutual interaction between the change agent and the client system--manipulation and indoctrination is avoided.

This typology is a very high resource-consuming type as far as the change agency and public is concerned.

3. The third typology may be labeled the Influence-manipulative model. The following usually characterize this typology:

   a. Predetermined definition of the problem, at least at a general level by the instigators of change.

   b. Predetermined solutions or alternative solutions.

   c. Predetermined specification of technical information packages needed to be communicated to the target system.

   d. Predetermined assumptions of existing values, attitudes and norms and changes needed in these for problem definition and solution.

   e. A strategy is developed for guiding or directing relevant actors or client systems through the decision-making steps toward a predetermined solution or relatively equally acceptable set of alternative solutions.[1]

4. The fourth typology may be labeled the Power Coercive model, which may include the following characteristics:

   a. It assumes coercive activities within generally accepted norms or the legal bounds of a society.

   b. It is dependent mainly or heavily on coercive tactics to influence the behavior of others.

   c. It emphasizes sanctions that can be delivered if behaviors are not changed--sanctions in the area of the political, legal, economic, moral, etc.

   d. It works within or attempts to bring about changes in the existing system and subsystems. (It does not overtly attempt to destroy existing systems as is assumed under the conflict model. It is more dependent on confrontation than conflict and violence.)

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[1] The Beal Construct of Social Action (1958) appears to be most applicable to typologies 2 and 3 listed above but also applicable to typology 4. It may be noted that the Beal construct is described as a "functional" construct in that it emphasized the functions to be performed rather than dealing directly with processes.

To some coercion is an offensive term. Some examples of coercive power may bring clarity to the concept, however, and indicate it is often used.

Through the political and legislative (and in some case judicial) process, laws are passed and determined to be constitutional. Legitimate coercive power is used, if needed, to implement or enforce the law, e.g., civil rights, school integration, pollution control and zoning.

It is interesting that most university and government-related community development activities of the past have been based on the premises of voluntary or pursuasive involvement of individuals, organizations and agencies. A number of agencies or units of government are given responsibilities to carry out community development activities, but in most cases they have no authroity or coercive power to make decisions or force individuals or groups to behave in certain ways. There are some examples of coercive power such as in the cases of zoning and environment and pollution control. Some argue that development policies and objectives must be set through the political and legislative process and that governmental agencies and other units of government must be given the coercive power to conduct activities to reach those objectives.

A more subtle type of coercive power is the "strings" attached to the availability of federal funds, i.e., funds are available only if certain changes are made or certain activities undertaken.

There are many other examples of coercive power: companies threatening to pull a plant out of town unless certain conditions are met; new industry "demanding" certain concessions to locate in a community; power structures withholding resources unless their conditions are met or exerting pressure on individuals and groups to behave in certain ways.

All coercive power, however, does not come "from the top down". People may organize to exert coercive power: strikes, boycotts, marches, sit-ins, "button holing" legislators. (In general the Alinsky (Alinsky, 1971) model of change embodies coercive power as its main change strategy.)

5. The fifth typology may be labeled the Conflict model. This typology may be characterized as follows:

   a. In general it does not choose to put pressure on the existing system or sub-systems to change.

   b. Instead it sets out rather overtly to destroy or replace the existing system or sub-systems.

c. Aggressive behavior, including violence is an accepted mode of operation. This violence may be directed at individuals, groups or physical facilities. We do not have to look beyond our own societies for examples of this type of model of social change being employed in forms such as riots, burning, looting, bombings, killing of leaders, attacking police and law enforcement officers and judges, tar and feathering, burning farm buildings, cutting fences, stopping trucks on the way to market, etc.

Presented above are five types of change processes. It is recognized that this is not the only way or necessarily the best typology of social change. It does show, however, the variance in ideological orientations involved in social change. In the real world of attempting to bring about community development a number of different typologies will probably be used--even within one social action program! It is obvious to us that the strategies, techniques and processes will vary greatly depending on which typology or combination of typologies you choose to use. Some of the major variables affecting the choice are discussed below.

Specifying Decision-Making Units

Regardless of the range of acceptable means for change there is another important consideration involved in specifying processes of development. An important fact, often overlooked or not emphasized, is that almost all change is the result of decisions by human beings. (The fact that changes may be due to natural phenomena, wind, rain, floods, earthquakes, etc. is recognized.) If we accept the proposition that almost all change, certainly social change, is the result of human decision-making, where does it lead us? It leads us to another very important consideration. Namely, if we specify a development objective, we should also specify who will have to make decisions if we are to reach that objective. The obvious answer is that humans as individuals, or two or more individuals in some type of interaction with each other, will have to make decisions if we are to reach that objective. At a more real-world level, if we think of a range of development goals we can easily begin to list many decision-making units which may be crucial in the process of reaching specified development goals: e.g., individuals, families, city councils, boards of supervisors, zoning commissions, industrial development commissions, chambers of commerce, corporation boards of directors, school boards, boards of deacons, school superintendents, legislative bodies, administrators in agencies, business entrepreneurs, labor unions, power structures, courts, judges, attorney generals, hospitals, aggregates (public opinions) and the like. We would argue that we must go through the analytical process of delineating the decision makers whose behavior must be changed or buttressed to accomplish specified development objectives. We would also argue that the development processes and strategies may differ measurably depending on what the specified decision-making unit or units are or what combination of decision-making units are target audiences for changes in decision-making. For example, the strategies and processes for bringing about a decision on the part of a legislative committee to report a bill out of committee are probably very different from activities oriented at eligible voters to attempt to pass an annexation referendum in a designated community territoriality.

Additional Issues

There are additional constraints on the general specification of development processes. Several of them will be briefly presented.

1. The quantity and quality of resources possessed or readily available to those attempting to bring about change. Emphasis here is on human, social and financial resources, not on physical resources. Obviously, the quality and quantity of resources needed will depend on the type of change process chosen. Several examples may suffice to make this point. Normatively, and in terms of probability of success, a situation may indicate the importance of meaningful involvement of a major segment of the citizenry in the decision-making process. However, limitations on professional staff, lay leadership, and saliance of the issue may indicate that such involvement is not feasible--the ideal process may have to be compromised. Ideally, there may appear to be the need for a major research input into analyzing the dimensions of the local situation to provide data for a rational decision making. However, the lack of professional and financial resources may place strong constraints on undertaking such research. A single resource development specialist working in a multi-county area probably places severe constraints on the processes he may use to conduct development activities.

2. The knowledge and skill level of those (including the change agent) attempting to bring about change. There are often two major types of constraints on strategies or processes in this case. One is the breadth and depth of technical knowledge needed and available to fully understand the problem, formulate realistic alternatives and implement decisions made. The second is the knowledge and skill regarding the processes themselves. Even those who possess the technical skills are often very limited in their range of knowledge and competent skills in the areas of social interaction--forming groups, establishing organizational structures, developing educational information, involving groups in meaningful decision making processes, rationalizing value and special interest conflicts and motivating people to take action. Some would argue that a crucial step in bringing about value and attitude change is sensitivity training, especially those who are proponents of the normative-reeducative type of change. Yet, very few professional change agents possess the understanding and skills to involve groups productively in sensitivity sessions.

3. The stages of the development processes in which those providing the stimulus for change wish to be involved. Traditionally, some change agencies have defined their role as strictly educational. That is, they see their role as providing leadership and information to help clarify the existing situation and delineating realistic alternatives. They believe it is beyond their sphere of activity to be involved in the final decision-making process and helping implement decisions once they are made. The

processes involved in the educational phase may differ significantly from those of the implementation phase. In fact, some would argue that certain educational phase techniques that are presently being used make it more difficult to obtain decisions and implement decisions. For example, there are those who argue with support of some research findings, that a presentation of all the data regarding a problem situation and developing a wide range of alternative solutions may lead to local people having great difficulty deciding on feasible alternatives they wish to pursue. Providing of a near complete data input and a wide range of alternatives may meet the educational objective but in fact reduce the probability of final decision making and implementation. If implementation is the major objective, they would argue that the educational phase should present more limited information and a narrow range of highly rationally bound alternatives from which to choose. It is argued that this will facilitate the decision making and implementation phases. The implementation phase usually requires the involvement of and commitment of many more resources than does the educational phase--implementation is truly reality testing. The strategies and processes of implementation may differ greatly from those of the educational phase.

4. Processes may differ depending on the degree to which the change agent or change agency regards boundary maintenance as important. That is, the processes used will be somewhat dependent on the degree to which the change agent or change agency desires to maintain control and receive credit for the development activities for themselves, or is willing and desires to involve other agencies or groups in cooperative or coordinated development activities, i.e., initiate systemic linkages with other groups. Those groups that place a high value on boundary maintenance tend to choose strategies and processes possessing the attributes of control, formal organizational structure, controlled information flow, organizational identity, limited objectives because of the limited (one key agency) resource base, and controlled exchange with other groups. Before leaborating on the notion of coordination, we would like to comment further on one of the issues identified--namely, the knowledge and skill level of those involved in bringing about change.

Decision Making Levels Viewed as Citizen Participation

Following our presentation of the five-fold typology of change processes, we identified additional issues and constraints which have a bearing on the type of change process chosen. One issue concerned the skill level and knowledge of those involved in and:or attempting to bring about change. In this section we would like to elaborate that notion and briefly discuss the concept of citizen participation and the manner in which this relates to competencies needed by citizens in order to effectively be engaged in the change processes initiated by change agents--regardless of the type of process chosen. In other words, what process oriented information does the citizen need to know to facilitate change processes of various types as well as being prepared to react to (or resist?) types of process which he, the citizen, finds to be contrary to his values?

As a preface to these few remarks about citizen participation, it is well to remind ourselves that the phenomenon of process as a part of development is not new, albeit our focusing attention on it at the "beginning" of development activities is a novelty of sorts. Most process-related research in fact has been "evaluation" oriented--to determine how well the change agent did in reaching his goals, not the goals of the people, and most certainly not the effectiveness of the process from the citizen's viewpoint. Nonetheless, change agents, especially those such as the extension service, have taught various aspects of process for years. Sometimes it was taught under the "steps in the decision-making process" as it related to resource allocation problems within the firm. Sometimes it was taught as "farm and home management", with an emphasis of sorts on the process of resource allocation. The notion of process has been central in the workshops, short courses and correspondence courses that have dealt with leadership, small group dynamics, social action, communication within groups and the like. Some of the earliest process-oriented extension teaching and research is based in the economic arena and couched in such familiar terms as "means and ends" and "short-run versus long run."

All of the competencies needed by citizens in micro- (i.e., within family and within firm) decision making identified directly above, also apply to the kind of processes we have discussed in reference to communities, groups and organizations who have the task of initiating change to alleviate the inequities described by Heady (1972) and others. There are characteristics unique to the macro-decision making arena, however. The number of potential decision makers increases, the value differences between and among the social actors may increase, the communication becomes more complex and the information gathering and delivery becomes a more complicated task.

An interesting paradox exists. Citizens and professional change agents at the community level alike could be taught a great deal about social processes which ostensibly would improve the likelihood that they would achieve the objectives they chose (ironically, whatever the objective was, good or bad, depending on the typology of change chosen). The paradox is that we do not know with any degree of certainty which particular processes would be most effective in a given circumstance. Thus, we suggest that the quality of leadership is important but we are hard pressed to know which quality for which purpose. Spiegel and Mittenthal, in commenting on the process of citizen participation, have stated that, "A major reason for citizen participation having successfully resisted generalization is the absence of a sizable enough body of empirical evidence from which to draw meaningful inferences and conclusions..." (Spiegel, 1970).

At the risk of seeming to be inconsistent, however, we would argue the need for widespread citizen knowledge of the basic typologies of change processes and the further need to develop basic skills of leadership and organization--if for no other reason, so that they may be effective in dealing with the many species of change agents who practice various forms of social engineering or architecture in the name of citizen participation.[1]

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[1] See the caustic and provocative analysis of citizen participation by Arnstein (1969) for the various ways in which citizen involvement in the process of change may be a facade.

The Civil Rights movement in its many forms and the Community Action phase of the Economic Opportunity Act have spawned several examples of change processes within the typology outlines earlier. These processes should be studied and translated for their potential meaning and applicability to rural development. The extension component of the university has concentrated on teaching only those processes which fit in the first three, and possibly four, types discussed above. This undoubtedly represents a normative position on our part--but does it recognize the possibility that citizens have a right and a need to know and understand all the processes of instigating changes? Does it recognize that some changes, (i.e., processes) may have negative sum outcomes just as certain policies of reducing or eliminating inequities may have negative sum outcomes? An example may be helpful. Local group leaders (in a church, for example) sometimes employ professional fund raisers. The money is raised, but so much animosity accrues that the congregation is "lost" or divided for years to come. The Civil Rights movement, the War on Poverty and the move toward adult rights for the young are all introducing dynamics into change processes which many in the rural areas have never experienced. One could argue that they are and will become even more disadvantaged in the area of process unless we consider their need to know more than Robert's Rules of Order and group discussion techniques.

Another dimension of this concern is the increasing likelihood of a growing gap between the expertise of the planners and instigators of change and the laity, thus increasing the odds that citizen participation may become a facade because the opportunity for choice is removed irrevocably from public scrutiny and reappraisal at one or more stages of the process. We are not leading to a conclusion that citizen knowledge and understanding of processes of development is so paramount that major allocations of teaching or research resources should be deterred from finding solutions to the inequities. We are saying that a balance needs to be struck so that the targets of change have equal opportunity to affect the choice which must be made among alternatives, i.e., a lack of facility in processes should not be the determinant of the decision.

With the increased complexity and speed of change in our society and warnings of such phenomenon as "future shock" (Toffler, 1970), neither the high priests of change (the professional change agents) nor the laity (the citizens) can continue a life of celibacy regarding the processes of change.

Models of Coordination

It is difficult to think of development processes without recognizing that in almost all cases there will have to be some degree of coordination between groups, agencies and institutions if development goals are to be accomplished. Here again there needs to be clarification of what is meant by coordination and the various types of coordination. To many agents coordination means other groups or agencies helping me, delivering resources, so I can do my job.

Coordination as a process involves a set of organizations or units within an organization that are aware of and are interdependent with one another for the attainment of goals. In polar terms, coordination can be viewed as one of two types. Organizations or groups may have facilitative interdependence which permits two or more organizations or units to simultaneously maximize their goals. On the other hand, organizations or units may have competitive interdependence, where one organization or unit attempts to maximize its goals only at the expense of another organization. With the large number of agencies and groups involved in community development the latter case--competitive interdependence--seems to exist to a greater extent in the real world of today.

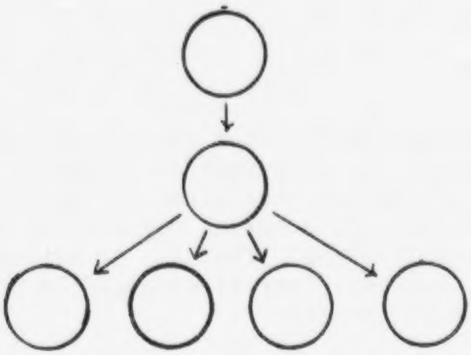
We can conceptualize coordination in three model frameworks. (Thompson, 1967)

1. Vertical coordination--coordination by authority. In this model the units in an organization, or organizations, are placed in a clear-cut hierarchial order; lines of authority are explicit, (See Figure 1, A) and sanctions are designed to follow and give power to the vertical lines of authority. In community development, examples of this type of coordination are very difficult to find beyond the bounds of a given agency or group. Sometimes vertical coordination is very difficult to find within an agency or group. If we observe inter organizational or agency coordination there are very few cases of one agency or group having authority over another agency or group.

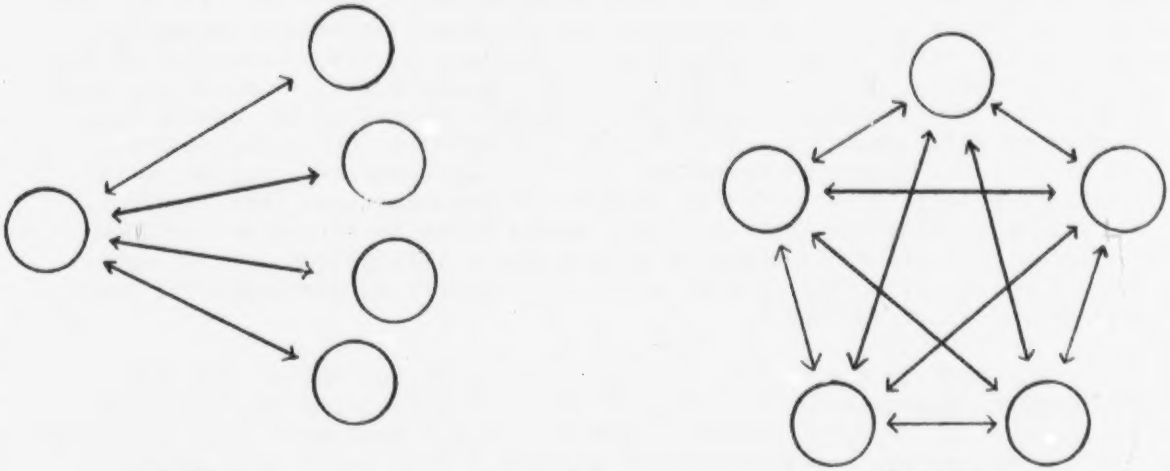
2. The second model of coordination may be labeled, coordination by plan or agreement. In this case there is no pre-existing authority structure, but organizations or units within an organization, by overt decisions agree (usually in writing) to perform certain roles, deliver certain resources, accept certain types of decisions and perform in relation to those decisions. This type of coordination model is also relatively difficult to find in community development activities.

Within this model of coordination there are many variations as to the completeness of coordination. It can take the form of all organizations interacting with each other and having written agreements or plans with all other organizations. (See Figure 1, B-systems) A more common form is for one agency or organization to take leadership and for that particular organization to have agreements with all other organizations, but the other organizations do not have agreements among themselves, (see Figure 1, B-dyadic).

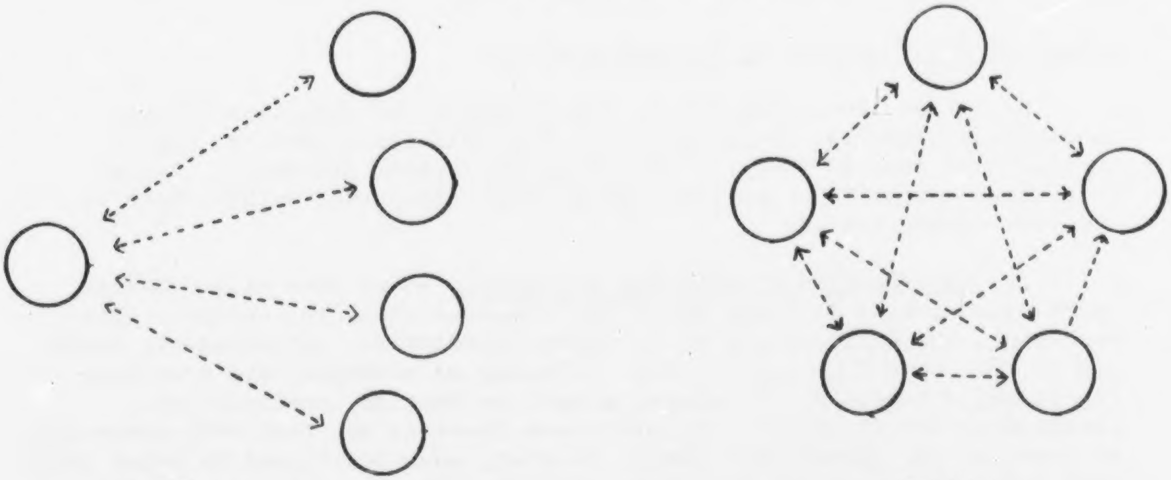
3. The third model, and most common type of coordination in community development, can be called coordination by mutual adjustment. In this model of coordination there is no formal authority patterns or written agreements as to role and functions. It is usually conducted through the initiative of individual agencies or agency personnel working together informally on a more or less peer basis. Three main rationales seem to underlie this type of coordination. (1) A recognition of the importance



A. Coordination by Authority


Dyadic
System

B. Coordination by Plan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C. Coordination by Mutual Adjustment

Figure 1. Models of Coordination

of a goal to be accomplished, (2) A recognition that an individual agency alone does not possess the resources or access to client systems that would allow it to accomplish this goal, (3) An "exchange" theory. By exchange theory we mean the norms of reciprocity govern the securing of resources among organizations. That is, if resources are received from one organization, that recipient is expected to give something in return in this or some future exchange.

Now, the opening remark in this section may make more sense--that is coordination is defined by many as other groups or agencies helping me, by delivering resources, to help me do my job. The other side of that coin is that organizations perceive the key agency as always asking for resources but never reciprocating for the delivery of resources--they define it as a one-way, not an exchange, system. Again in this case, we may conceptualize the exchange flowing mainly from a central or key agency to a number of other agencies. (See Figure 1, C-dyadic) Or we may conceptualize it as a closed system of exchange; that is, all agencies involved in the exchange process with all other agencies or organizations (See Figure 1, C-systems). When one central or key agency tries to set up an exchange relation with all other agencies independently this places the key agency in a position of having to have a lot of resources to exchange--"it pays all the bills of exchange".

Now back to the theme of this paper. It is our belief that the development processes and strategies will be highly different depending on which model of coordination we assume. This illustrates again the great difficulty, if not impossibility of specifying "the development process". There is developing a fairly good body of knowledge about the conditions and the processes needed for mutual adjustment coordination.

Suggested Needs in Process Related Research

We believe that discussion, clarification and specification of assumptions regarding the points raised in this paper thus far may be an important step in research regarding development processes. Beyond this there appear to be at least three major categories within which we can view research needs.

1. Codification of existing knowledge. As we have stated before, there is much that is known about the processes of social change. This knowledge, however, appears to be highly descriptive, situationally bound and in some senses non-predictive. A number of attempts have been made (including attempts by the senior author) to develop constructs or paradigms of social action. In most cases these do not deal with processes, at least at the operational level. However, much additional is known about such areas as: attitude formation and change, human motivation, group formation, task performance and group maintenance, organizational behavior, complex organization, coordination, conflict management and the like. It appears imperative to draw from these areas of knowledge and the disciplines involved to determine theoretically how this knowledge should apply to

real world development programs and situations.

2. Experimental design process alternatives. Based on the existing state of knowledge, it is not out of the question to design and conduct experimentally designed and "controlled" alternative combinations of processes and determine the cost (quantity and quality of resources used) and benefits (development goal attainment). Additionally, we should attempt to determine the secondary costs and benefits of the alternatives. The following examples may illustrate what is meant by secondary impacts. It may be possible to relatively effectively and efficiently bring about a specified development change by power coercive or manipulative models. However, what is the impact on the attitudes and future behavior of those coerced or manipulated? Will they feel alienated; will they withdraw from future programs? Even if the empirical-rational model takes more time and resources and the action is not completely consistent with the professional experts judgment of problem definition or solution, will this short-run high investment in involvement, leadership development and program success experience have long-run payoff in terms of attitudes, knowledge and skills developed for future more complex programs?

The range of alternatives selected should probably be fairly broad--"non-establishment" groups are using many processes to successfully accomplish their goals that haven't been tried by establishment organizations.

3. Researching on-going and innovative development processes. There are many examples of successful, and in many cases innovative, approaches to development all around us. We would suggest the least we could do is to attempt to study, conceptualize and measure these processes and their interaction. It may be of equal importance to study unsuccessful programs to determine failure elements in on-going programs so they may be avoided or overcome in future programs. One route to theory construction is the inductive approach.

In summary, the main thrust of our presentation is as follows. It is very difficult, if not impossible, to specify development strategies and processes unless we have knowledge about and agreements on the following issues:

1. A normative agreement on what we mean by development at a general level.
2. A specification of development objectives in measurable terms.
3. Agreement on the ideological or philosophical orientation(s) of the change agency and change agents--acceptable means.
4. Consistent with the above, specification of decision-makers and:or decision-making units.
5. A realistic assessment of the resources available to the change agent.

6. The knowledge and skill level of the change agents involved.

7. The phases of the development process in which the change agency is willing to become involved.

8. The willingness of the change agency to become involved in coordinated activity.

9. The coordination model within which the change agency and agent is going to work.

10. The knowledge needs of citizens to insure opportunity for becoming effectively engaged in the process.

11. The need for continued research related to process. This may be independent or a part of instigated development efforts.

It has been argued that only after discussion, agreement and further work on these issues can we intelligently begin to specify development processes.

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MEASURE OF SOCIAL CHANGE: SOCIAL INDICATORS

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"Even though a great deal of current social analysis is built upon an exchange model similar to the economics model of exchange, the problem of establishing a standard unit of exchange in so many areas of social life has proved to be extremely difficult."

"The need for realignment of policy priorities in development is, perhaps, nowhere so apparent as it is in rural America."

"...the primary need of rural development is to understand more adequately the organization of rural communities and processes that lead more efficiently toward effective community action..."

"...indicators need to be developed that measure the organizational structure of communities and monitor how these structures change through time."

NATIONAL CONCERN with the social problems and societal tensions, which have accompanied recent societal change, has brought about a renewed interest in the problem of measuring and monitoring social change and national trends.

The notion of employing social indicators as tools to measure and monitor societal change has especially gained favor among social scientists in recent years. There has been considerable discussion recently of the need to establish an information system built upon a system of social indicators to provide feedback to monitor changes in the social conditions of modern society. In turn, there is evidence of a growing concentration of research effort toward the development of a system of social indicators. Most of the current efforts to develop information systems built upon a system of social indicators have focused, however, upon change in inclusive societies, and rarely upon change in societal subunits where so much of the policy decision-making and programs of development are actually undertaken. There is need to refocus research efforts toward the generation and development of social indicators and social information systems that provide data to aid in policy decision-making at the local and regional levels. This need is especially apparent in rural development efforts where social indicators developed at the level of the nation state do not provide data disaggregatable to the subunits normally of concern in rural development efforts.

The purpose of this paper is to examine the notion of social indicators as it has developed over the past two decades to explore the potential applicability of this concept to problems of rural development.

It has been less than a decade since the concepts of social indicators and social accounting were first seriously advanced as a potential tool for monitoring societal change. The interest in and discussion of these concepts have involved such a widely ranging array of individuals and specialty groups that a number of writers have referred to the current social indicator effort as a new social movement. The evolution of interest in the development of social indicators over the past half decade has resulted in a rapid transition from early programmatic statements dealing with the needs and potentials of social indicators for public policy and planning, to more mature and scientific efforts to systematically bring about their development. This evolution can be viewed as a three-phase transition which will be referred to as (1) the generation of an idea; (2) the search for a perspective; (3) the empirical phase. An examination of the development of the social indicator movement through these stages may be helpful in clarifying the aims and purposes, as well as the problems to be confronted in the development of social indicators of rural development.

The Generation of An Idea

The propensity of Western nations to seek information to aid in national decision-making has long been recognized by social scientists. The recent interest in social indicators and improved social reporting must be viewed as both an extension and reorientation of this tradition. The social indicator effort is an extension of this tradition in the sense that it has represented an applied and pragmatic effort to generate social information to aid in more informed and balanced policy decisions and improved social planning. It can, in turn, be viewed as a reorientation of this tradition in the sense that this movement is one of several recent trends that suggest a gradual shift in information premises for public policy formation, in which the primary preoccupation with national economic development is being extended to embrace a broader concern with total social development.

This shift in information premises has appeared at this time in history, in part, because of the economic successes of modern history, in which the productive capacity of affluent societies have allowed mankind, within the context of modern society, to broaden the planning horizons of public policy to include a broader range of social and psychological goals and alternatives than have been possible under less affluent conditions. The shift, however, has also been due to a growing recognition that unrestrained pursuit of national economic goals without equal emphasis upon other social conditions, that are basic to human satisfaction and fulfillment, has resulted in unintended consequences of economic development that are dysfunctional to over-all human well-being. To a great extent, therefore, the recent interest in monitoring social change and in societal guidance has appeared as a reaction to the proliferation of social problems in modern urban-industrial society.

There have been a number of activities undertaken by public and private agencies over the past two decades that are indicative of this shift toward broader social planning. At the national government level, one of the early indicators of broadened social concern came by way of the Report of the President's Commission on National Goals (1960) for the "Sixties." This group of scholars was assigned the task of developing a "broad outline of coordinated national policies and programs" and to "set up a series of goals in various areas of national activity." The report of this Commission, Goals for Americans 1960, outlined a number of domestic and international goals considered important to effective societal development and certainly goals that reflect a wide range of current social issues. The efforts of this Commission were renewed in 1969 by President Nixon's National Goals Research Staff (1970). The report of this research staff, Toward Balanced Growth: Quantity with Quality, focused heavily on social issues and attempted to chart recent social trends as a basic step in establishing priorities for future growth. Both of these groups concerned with national goals and priorities are indicative of the current emphasis on a broader context of national planning.

Specific interest in the topic of social indicators came by way of research undertaken by the American Academy of Arts and Sciences for the National Aeronautics and Space Administration to determine the impact of the space program on American society. It was from the work of Raymond Bauer and his colleagues, to development techniques to assess the societal impact of the NASA program and to develop methods for anticipating these effects, that the notion of social indicators as yardsticks to measure the societal impact of change took form. The book, Social Indicators (Bauer, 1966), grew from the research effort for NASA and provided the basic statement of the need and potential use of social indicators in public policy formation, as well as some of the problems to be overcome in their development.

The notion of social indicators advanced by this group is clearly developed by analogy from economics. The basic thesis of this analogy suggests that since economic indicators have proven of value to economics and the development of economically relevant public policy, the development of social indicators should also prove of value to other social science disciplines and to the formulation of broader social policy. The primary thrust of this analogy has been to reorient national attention beyond simply the prospects of affluence toward the problems of affluence, and from primary concern with quantity toward a greater concern with quality in the social conditions of life in modern society.

This analogy from economics was extended even further by Bertram Gross (1965, 1966) during the mid-1960's through his proposal that an annual Social Report of the President should be undertaken to compliment the annual economic report. In 1966, the National Commission on Technology, Automation, and Economic Progress (1966) extended this analogy somewhat further by calling for some system of social accounts to assess the utilization of human resources in four areas:

1. The measurement of social costs and net returns of innovation...
2. The measurement of social ills...
3. The creation of "performance budgets" in areas of defined social need...
4. Indicators of economic opportunity and social mobility...

The terminology of these recommendations clearly indicate a tendency to visualize the development of social indicators within the framework of a logical system similar to managerial economics. The new Planning-Programming-Budgeting System (PPBS) of the federal government, which was launched in 1965, has been advanced by many as the logical framework in which social accounting and social reporting should be undertaken. No matter whether the PPBS system is to become the basis of this type of information system or not, it is clear that early exponents of social indicator research had in mind the measurement of both input as well as output data which assess the quantities and qualities of public services. These data, in turn, are to be built into a logical structure capable of assessing social costs and benefits and aiding in more balanced decisions in national policies and programs.

Efforts to implement some of these early proposals into the activities of the federal government was launched by President Johnson in March, 1966, when he commissioned the Department of Health, Education and Welfare to begin working toward a social report by developing the necessary social statistics and indicators (U.S. Department of Health, Education and Welfare, 1969). The report of HEW, Toward A Social Report, was published in January, 1969, and included summary data in seven areas of national public concern: health and illness; social mobility; physical environment; income and poverty; public order and safety; learning, science and art; and participation and alienation. Even though the efforts of this department fell far short of establishing reliable social indicators or developing a comprehensive annual social report, it did signal, in a limited way, new direction in national planning and development.[1]

Beyond the early work of HEW to lay out the resources and indicators for an annual social report, perhaps the strongest stimulant to the social indicator movement has been the discussions, research, and hearings which have surrounded the "Full Opportunity and Social Accounting Act" of 1967 and the "Social Accounting Act" of 1969. These Congressional Acts, commonly referred to as The Mondale Bills (U.S. Senate, 1969), provide for: (1) an Annual Social Report of the President, (2) a Council of Social Advisers to assist in preparing the social report, and (3) a Joint Committee on the Social Report to review the report and transmit its findings to Congress. Even though these bills have not become law (and certainly with present resistence within the federal government to certain aspects of the bill, it may not become law in the near future), they have brought a great deal of national attention to the issues surrounding the general topics of social indicators, social accounting and social reporting.

It has been within this general context of increasing national concern and with a broadening of the context of national development to include areas of social concern often omitted from national planning in the past that the social indicator movement has arisen. The generation of the idea of societal feedback through improved social reporting during the past decade was accompanied by a great deal of optimism concerning the possibilities of improved social planning and development. It soon became apparent that the notion of a societal feedback system was more of a dream than a reality, however, and that many conceptual, theoretical, and methodological problems would have to be resolved before such a system was to become a reality. In response to the early criticism of the movement, the attention of persons seriously concerned with societal monitoring shifted from simply attempting to sell an idea toward more systematic efforts to lay out a strategy or perspective that might facilitate the development of a social information system.

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[1] The social indicator work within the federal Government of the United States has been transferred to the Office of Management and Budget, Bureau of the Budget. The framework of the social indicator work has been revised and continues, although hampered by limited resources.

The Search for a Perspective

The task of developing social indicators by analogy with economics has proven to be a difficult empirical problem. Several important issues have been raised by critics of the social indicator movement that suggest some important conceptual and methodological problems unique to the development of social indicators making the analogy hard to maintain. Attempts to resolve these issues have resulted in several alternative perspectives emerging within the movement. Therefore, some understanding of these issues are basic to understanding the rather diverse nature of current social indicator research. Two issues are especially pertinent to the focus of this paper: the problems of conceptualization and measurement.

Conceptual problems

The essence of the conceptual problem confronting social indicator research is clearly reflected in the title of a recent article by Leonard Duhl (1967) for the American Academy of Arts and Sciences, when he writes:

> "Planning and Prediction: Or What To Do When You Don't Know the Names of the Variables."

The difficulty of articulating the social phenomena to be measured and monitored by social indicators is basic to the frustration expressed by so many now engaged in social indicator research. We do not have clearly specified criteria for delineating and specifying the social phenomena that should be monitored. No doubt, this lack of criteria is due both to the fact that we do not have a general social theory or model available in the social sciences capable of specifying the variables crucial to desirable social progress and development, and to the fact that we do not have clearly specified social goals of social development. As a result, the term "social" remains hazy and ill-defined, and when taken in its broadest meaning, it implies an unlimited array of variables (environmental, cultural, demographic, biological, social psychological, etc.) that can accurately be depicted as "legion."

Several perspectives or strategies have been developed, thus far, that have attempted to suggest criteria or models designed to aid in solving these conceptual problems. These perspectives are exploratory and must yet be proved as adequate research strategies. These proposed perspectives obviously vary widely in terms of inherent strengths and weaknesses. Even though nearly every writer who has focused on this problem has come up with their own unique perspective, there is a tendency for these perspectives to merge into a few major lines of research.

Social goals One of the earliest strategies suggested to aid in conceptualizing social indicators tended to view social indicators as tools to monitor progress toward goals. This perspective suggests the need to specify goals of social development and to generate indicators capable of monitoring the various social dimensions inherent in such goals. This perspective has been to focus on nationally articulated goals of a general nature, such as those produced by the National Goals Research Staff, and to generate indicators expressive of those goals (Biderman, 1966; Stanford Research Institute, 1969; Terleckyj, 1970; Harland, 1971). Another expression of the approach has been to focus on the specific goals of agencies and programs (U.S. Department of Health, Education, and Welfare, 1969; Vestermark, 1968; Bank of America, 1971; and the recent establishment of the Societal Analysis Activity in General Motors) and to generate indicators that are of direct normative interest to persons responsible for decision-making within these agencies.

The primary objection that has been directed toward this perspective has focused on the normative nature of this strategy. In the absence of consensus concerning social goals, the concern of many of the critics of this perspective has centered on the question of the nature of the goals to be pursued and who will determine these goals. For instance, the HEW (U.S. Department of Health, Education, and Welfare, 1969:97) definition of social indicators has been heavily criticized on this basis. Their definition of social indicators suggests that:

> "A social indicator, as the term is used here, may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the conditions of major aspects of a society. It is in all cases a measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things have gotten better, or people are 'better off'."

The notion of indicators as statistics of "direct normative interest" has been most strongly questioned since it is not clear whose normative interest will determine goals of social development nor the indicators that are to be developed.

Quality of life A second strategy of social indicator research that seems to be more often suggested than any other is to formulate the goals of social planning and development in more abstract and general terms such as "over-all social welfare" or "quality of life." The primary thrust of this type of research has been to develop a "quality of life" index or system of social indicators that reflect the social well-being of society in areas of trans-economic concern. The notion of a "gross social product" (Fox, 1971) is illustrative of this type of research. However, a second tendency often associated with quality of life research focuses more on the problem of measuring relative standards of living.

The normative implications and inherent inability to adequately specify the meaning of the term "quality of life," renders it relatively useless as a basis for delineating social indicators of high utility to public policy. Even though there is little doubt that "quality of life" is a universal goal of mankind, there is also little doubt that few, if any, living human beings would agree on just what it is that constitutes quality of life. Individual perceptions of quality of life and social aspirations arise from situationally specific experiences which vary widely throughout society and change rapidly through time. Not only is it difficult to find any high degree of consensus concerning quality of life standards and goals, but social indicators developed around this concept may prove to be of short-run value. Social indicators of this type will need to be constantly reformulated as normative interests shift through time, rendering long-run trend analysis through the cumulation of time series data virtually impossible.

Social Viability A third conceptual strategy for social indicator research tends to reorient attention away from the notion of social maximums such as quality of life toward social minimums and basic societal need. Peter Corning (1971:2) has, for instance, argued that the most basic goal of both the individual and society is human survival, and that there is a range of universal needs that must be fulfilled in any social group if mankind is to survive. He, therefore, has called for the development of a "survival" or "viability index" that is capable of monitoring the minimum and requisite conditions of human existence. This index should be able to help assess how well a social group is doing in meeting the basic life needs of its members. Even though Corning is more concerned with human viability or species viability, it also is reasonable that social organizations also have certain organization requisites that must be met if an organization is to survive, and that an index of organizational viability may also be needed. It may be, therefore, that a workable criteria for developing social indicators of rural development may be one that attempts to isolate those minimum conditions of individual and community survival and to assess how well rural communities are doing with respect to these viability needs.

The rapid decline of rural population has certainly undermined the capacity of many rural communities to provide for the viability needs of their members. Even a more pressing problem, however, has been the gradual erosion of the organizational and institutional basis of rural community life. By focusing on the minimal conditions of human and organizational viability, it may be possible to establish weights and priorities of development in areas most crucial to successful performance of rural social systems. But it is the recognition that social information systems are desired to aid in making balanced decisions concerning planned social development that has given rise to a fourth perspective of social indicator research. This perspective has, perhaps, been most effectively stated by Land (1971) who argues that by analogy from economics, social indicators should be viewed as a component in a social systems model and should tell us something about the performance of that social system.

Social Systems From the perspective of development planning, the emphasis on social indicators as components in a social systems model has certain desirable features. In the first place, a model of this type should specify the interrelationship between variables important to planned development, and thereby aid in making decisions concerning needed inputs and programs. One of the major criticisms of current social indicator efforts is that they are producing unrelated statistics that may tell us something about the relative well-being of society's members in certain areas of societal concern but fail to demonstrate interrelationships between societal phenomena necessary for balanced decisions for future social action programs. The modeling process itself should provide a basis for establishing the relative weights to be given to various components in the system which should aid in establishing policy priorities. The systems approach also shifts attention from normative goals arbitrarily established toward the formulation of policies consistent with the effective operation of that system.

The systems perspective has been utilized at a variety of levels of analysis, ranging from abstract and generalized models of large scale systems to intensified and concrete models related to a single dimension of social life. Land has proposed the need to develop indicators within an institutional framework capable of assessing inputs, transformations, and outputs of major institutions. Models comparable to the economic models of the economic institutions, is believed to be possible for other areas of institutionalized behavior. Land cites the well-known study of social mobility by Blau and Duncan as one example of the effective use of the systems approach. This study drew heavily on path analysis as the methodological technique of demonstrating weights and interrelationships. Bertram Gross has also outlined a highly generalized conceptual model of a social system which was utilized by James Anderson (1971) in the study of health practices among one ethnic group in the United States. The Anderson study also utilized the path model.

The systems perspective is not free of problems. For instance, we do not have an established theoretical model of social systems capable of generating the range of empirical models needed. For this reason, models will, no doubt, be developed largely through the inductive process and statistical modeling techniques. In the Russell Sage Foundation document, Toward Social Reporting: Next Steps, Duncan (1969) has especially argued for an inductive approach to the development of social indicators, and has suggested the replication of earlier base studies as a basic tool to improve ability to measure change. Others have proposed strategies of model building through the application of mathematical and econometric techniques such as scalar models (Fox and Van Moeseke, 1972) and social policy models through the application of the economic policy model of Tinbergen (O'Connell, 1972), linear programming (Heady) and social prediction models using simultaneous equation models (Blalock, 1969) and Markov chain Models (Coleman, 1964). Russell Sage Foundation is also sponsoring efforts to develop models of specific social indicators.

Obviously, the success of the social indicator effort will depend not only on theoretical and conceptual problems but also on the methodological basis of measurement and model building. There is need to develop indicators that reflect theoretical concepts and allow for theoretical inferences necessary for social planning and public policy decision. Again the application of the economic analogy confronts certain problems in the transition from economic analysis to social analysis.

Measurement Problems

The task of developing social indicators has had to confront problems of measurement not always characteristic of economic analysis. These problems arise from the differences in subject matter and the nature of social data. While economic analysis utilizes, in the main at least, data drawn from processes of economic exchange in which common monetary indices can be fairly easily developed allowing the development of a standardized index of exchange, social phenomena are not as easily converted into a common denominator for comparative analysis. Even though a great deal of current social analysis is built upon an exchange model similar to the economic model of exchange, the problem of establishing a standard unit of exchange in so many areas of social life has proved to be extremely difficult. Without a common denominator or standard, efforts to establish weights and priorities in many areas of social life run into serious problems of quantification and analysis.

The motivation to develop a social information system arose from a recognized need to deal more effectively with qualitative dimensions of modern society. The difficulty of establishing a standardized unit of social exchange value stems from the general lack of consensus in modern society as to desirable qualitative standards of life. The subject matter of social indicator research involves conditions of life that are built upon and are reflective of intrinsic values that have arisen out of unique historical processes and social conditions under which people live. These conditions vary widely throughout society and result in a variety of alternative standards that often compete with one another in processes of social planning and legislation. This has meant that it is not only difficult to establish comparable units of measure necessary for social accounting or for assessment of social costs and benefits.

The problem of quantification is, of course, made more difficult by the subjective nature of so much of the subject matter of social phenomena. Problems of quantifying in scientifically meaning ways factors such as human perception, values and goals have long been recognized. There is currently some effort being made to develop social psychological indicators (Campbell and Converse, 1972); however, these studies raise an additional problem in monitoring social phenomena: the problem of replication and time-series analysis. By utilizing standard monetary indices, economic indicators are often built upon fairly continuous observations that allow for the development of statistical time-series analysis. So much of the data underlying social analysis, especially subjective data, are derived by relatively complex measurement procedures that are difficult and expensive to replicate on a periodic basis. Thus, the development of social indicators confront some unique problems that must be solved by techniques and procedures that cannot be derived totally by analogy from economic indicators. This however, is not to imply that social indicator research cannot profit greatly from the techniques already developed in economics. By focusing largely on objective social conditions and establishment of comparable units of measurement, considerable application of existing econometric and statistical techniques is no doubt possible. On the other hand, before social indicators can be developed that are of value to development planning and public policy many methodological and measurement problems must be resolved. Therefore, one of the crucial factors in the development of a system of social indicators will be the methodological sophistication used in their development.

The need for improved methodology has been noted by a number of individuals working in this area (Coleman, 1969; Lehman, 1971; Kamrany and Christakis, 1970, etc). Coleman (1969) especially has noted several points of increasing methodological sohpistication that provide a basis of addressing the general problem of monitoring of rural development without attempting to deal with the wide array of specific measurement and statistical issues surrounding this area of research.

Disaggregation To be useful in planning for development or in monitoring social change, social indicators must be developed to reflect variations in subcategories. One of the major objections to economic indicators, as well as to recent attempts to formulate social indicators, has been the highly aggregated nature of the measures. This has led to policy formation on the basis of aggregated demand without sufficient attention to needs and interests of subgroups delineated by factors such as age, race, education, occupation, region, etc. As Coleman (1969:94) notes in discussing the impact on the American Negro of policy decisions formulated in the basis of aggregated data:

> "One might go so far as to say that the failure to disaggregate, to show trends detailed by types of occupations, by population subgroups, and by differing types of individual trajectories, caused policy errors with serious consequences."

Hence, it seems that, whatever approach one takes to the development of indicators, it must provide for disaggregation. To begin this type of development at the aggregated level, as has normally been done in the past, presents serious problems for systematic disaggregation because the indices and measures may not provide the requisite data necessary for assessment of the social state of subgroups and ecological units. There is no area of social concern where the need for disaggregation is more apparent than in monitoring rural development. For all practical purposes rural social development focuses on relatively small subunits of society where so much of the social needs of rural people are fulfilled and through which rural development programs must be carried out. The major proportion of current social indicator research focuses on data aggregated to the level of the nation state and developed in such a way that it is not easily disaggregatable to the level needed to monitor the effectiveness of rural development programs. More attention needs to be directed to the development of rural social indicators and indicators of community.

Combined conditions

A second level of increasing methodological sophistication emphasized by Coleman (1969) moves in the opposite direction from disaggregation and lays the basis for inductive model building. This is the need to recombine data from several indicators to provide a multidimensional profile of individuals and subgroups. Coleman (1969:96) argues:

> "In short, I am suggesting that one must not only 'break the population down' through disaggregation, if social indicators are to be useful, but must also 'reconstruct the individual' through combined measures each of which gives only a fragment of information about his state."

Thus, indicators that can be used effectively in development planning must not only focus upon disaggregated population subgroups at this early stage of the development of social indicators, but also upon different levels of abstraction and the relationship between these levels in our efforts to conceptualize indicators of social condition and community viability. The importance of generalized indicators that provide for a more multidimensional profile of individuals and subgroups is particularly important for both the development of models of change and for policy planning, e.g., policies apply to individuals and groups as wholes, not to their individual attributes. But generalized concepts may be both misleading and unusable unless grounded in empirical reality. Too often, generalized models in the social sciences provide only abstract categories that may sensitize one to social conditions, but in addition, confront the researcher with unlimited and often insurmountable problem when attempts are made to explicate and operationalize these concepts into measurable indicators.

We believe that an alternative approach that offers greater promise in the initial stages of conceptualization of social indicators and community development is one that focuses, first, on the concrete empirical level and second, attempts to conceptualize factors inherently a part of the social state of individuals from various socio-economic positions and population subgroups. Once these basic foundations of empirical measures are developed, it may be possible to work toward a more generalized conceptual model by combining these concrete indicators into more abstract indicators that provide a multidimensional profile of individuals and subgroups. A conceptual model of community, constructed in this way, would provide empirical indicators of state variables capable of further generalization to larger social systems at a later stage of research.

Controlled indicators A third suggestion (Coleman, 1969) for increasing methodological sophistication, which is basic to this suggested future research, is the need to develop controlled indicators designed to show cause of a given condition. In his discussion of controlled indicators, Coleman (1969:96) states:

> "The reconstruction described...is designed to provide measures that show joint consequences of several variables, and is thus useful as a way of summarizing the conditions in which people find themselves. The very concept of social indicators appears directed to this kind of question, as measures of the 'state of the system.' But if social indicators are going to be useful beyond this, they must lend themselves to analysis, to work that is designed to learn the causes of given conditions. For this purpose one wants controlled indicators, which do not show the whole of a given condition, but only that part of it which can be attributed to a given cause...Thus, the point is that if social indicators are to be useful as guides for remedial policy that directs itself to causes of given conditions they must include controlled indicators that show the partial deficits of given subgroups attributable to given causes."

To accomplish this requirement on a large scale obviously would necessitate a highly sophisticated model of change able to show the interrelationship between strategic factors of the change process. A model of this type is not available now and, no doubt, will not be available for some time. To date, most of the attempts to develop a system of indicators have gone no further than elementary attempts to conceptualize indicators of state variables, which at best lend themselves to summary and description of the conditions in which people find themselves, but allow for no further inferences. Few, if any, have attempted to develop models that show the interrelationship between variables, and none that we have been able to find has attempted to relate indicators of quality of life to causal factors. We believe the failure of these studies to go beyond the development of indicators of state variables is, in part, due to the necessary methodological looseness of research that focuses on abstract macro-models before the requisite methodological sophistication and more concrete models have been developed. As an alternative, we believe a more promising approach would be to focus research first upon the social consequences of a narrow range of strategic factors in societal change as they impact the social life and viability of individuals and groups affected by the change in these variables. By focusing on one or two major forces in societal change at a time, such as technological growth or population shift, it may be possible to develop well-tested controlled indicators, which, in turn, should lay the basic groundwork necessary for the construction of causal models of societal change and, within this broader framework, specific aspects of social life.

The Empirical Phase

The first two phases of the development of the social indicator movement centered on the introduction of the notion of social indicators and the search for a perspective, the third phase has primarily been concerned with empirical research. One indicator of the maturing of a scientific movement is the degree to which techniques are developing. In this sense, the social indicator movement has demonstrated a rapid maturation over the past five years and, most specifically over the past two years. As many of the programmatic issues have been clarified there have also been increasing efforts to refocus attention and reallocate resources aimed at developing a system of social indicators. Most of these research efforts are experimental and in the early conceptual stages, although an increasing body of data are now appearing.

To date most of the research focused on the development of social indicators has been concentrated in the United States, although there is currently a great deal of interest in this topic in many parts of Europe. The United Nations has been engaged in various research programs that have significant implications for the social indicator movement. In addition, France, Spain, Germany, England, and several of the Scandanavian countries have already invested resources toward the development of a societal monitoring system. Just as in the United States government, most of these efforts are concerned with a limited range of social phenomena and are generating highly aggregated indicators based on individual and secondary data. The United Nations is now attempting to launch a program to develop indicators at the local and community level where so much of the social action programs of development efforts actually take place. There is considerable evidence that more attention will be directed to problems of disaggregation and indicators of smaller social units in the United States, although this is not a significant part of the social indicator movement at present.

In the United States, most of the social indicator research is being undertaken outside the framework of the Federal Government. The Russell Sage Foundation continues to be the only private foundation directly funding social indicator research, although several foundations are funding research in specific areas of societal concern which have significant implications for the social indicator movement. The major commitment of financial resources is that of the National Science Foundation. NSF is currently devoting several millions of dollars to this area of research and has already funded more than 20 research projects.

Most of the current social indicator research efforts, however, are either concerned with aggregated indicators of the nation state or indicators of urban conditions. The need to develop rural indicators and community indicators has been noted in recent literature (Sheldon, 1971; United Nations Research Institute for Social Development, 1972). The range of information needs in rural development efforts is significant and worthy of considerable attention. Without attempting to specify a comprehensive list of information needs, the remainder of this paper will be devoted to a brief discussion of some areas of rural development where social indicator research might prove to be of value.

Rural Development: Problems and Perspectives

The recent concern with broadening our development perspectives to embrace total social development has come about largely as a reaction to a marked tendency over the past century to conceive of development primarily in economic terms. However, this new emphasis in development must not be viewed as an anti-economic trend, for no one can deny the basic importance of the economic functions to human survival. It should be viewed as a desire to provide a more balanced development of human social conditions by focusing on a more balanced perspective of human social and psychological needs and potentials. For mankind has a vast capacity for creativity and for the expansion of human meaning and understanding in new directions that are, as yet, virtually unexplored. The fact that we now have opportunity to begin to explore new horizons of human meaning has come about because of the economic successes of the past centuries that have allowed mankind in advanced societies to solve much of its productive needs and, thereby, devote more time to total human fulfillment. Therefore, this new emphasis in development priorities seems to suggest a desire to bring economic goals and activities into a better alignment with other social factors.

This need for realignment of development priorities has been brought more clearly into focus in recent history, in part, because of the realization that societal effectiveness in attaining its economic ends are dependent on many other social factors. But it is also because of the growing recognition that the preoccupation of industrial societies with economic functions has allowed many latent consequences to develop that must at times be interpreted as dysfunctional to human well-being, and possible dysfunctional to ultimate human survival. For example, the congestion, environmental contamination, interhuman conflicts and tension that are experienced by our large urban areas must be viewed as constituting, in part, unintended consequences of unbalanced development where social factors are primarily treated as economic constraints, or as unavoidable social adjustments to economic growth.

The need for realignment of policy priorities in development is, perhaps, nowhere so apparent as it is in rural America. National preoccupation with technological growth and economic expansion, without regard for the social consequences of these processes, has required corresponding social adjustments that have placed an unequal share of the burden of social change on rural people. These rural adjustments have not only radically altered farm operation and management practices, but have hit directly at the social foundations and social fabric of rural life. The social problems of rural society, such as declining population, community deterioration, underemployment and inadequate social services, are equally related to these same national economic trends.

The realignment of development priorities have been expressed in at least two important respects in current rural development efforts. One focuses attention on human well-being and the impact of social change on individual life conditions. The other focuses attention on organization well being and the impact of social change on the capacity of that organization to deliver services. In the first case the focus of rural development is directed toward the alleviation of social inequities of recent economic growth. This orientation to development is, in part at least, reflected to a recent paper by Professor Heady (1972:2, 10) which addresses the problems of rural development:

> "The crux of the rural development problem is the distribution of benefits and costs of national economic development. The process of national economic development spews its gains and sacrifices inequitably among geographic, demographic, sectorial and economic groups. Typically rural communities are geographically isolated from the major benefits of economic development in its main forms in a highly advanced country such as the United States...Rural community policies and programs should be concerned basically with efficient means whereby these inequities can be erased."

> "The challenging task in rural community development is to identify the nature, location, and extent of inequities falling on rural communities and various population strata of them; then to evaluate and provide alternative means for alleviating or redressing them."

The concern with problems of inequity in national economic growth is reflective of the growing realization of the extent and breadth to which national preoccupation with the limited goal of technological development and economic expansion has resulted in unintended and dysfunctional consequences in other areas of social concern.

Few social scientists would argue with the thesis that the crux of the problem of rural development is a problem of distribution, and that one of the important concerns of social indicator research is the generation of an "intercommunity objective function or set of social indicators" capable of assessing the "nature, location and extent of inequities falling on rural communities." In fact, the need for this type of research is acute, for very little research is currently directed toward the development of social indicators and social information systems capable of assessing the problems confronted in rural development. Most of the current social indicator efforts focus on the generation of national statistics that are not readily disaggregatable to the level of ecological subunits and population subgroups normally of concern in rural development. The development of social indicators that more adequately demonstrate intercommunity inequities must be considered a major need in current social indicator research.

To focus primarily on aggregated characteristics of rural people in an attempt to assess social inequities, however, is only part of the problem of rural development. A more basic question deals with the problem of erasing or relieving these inequities. There is no doubt that national and state policies and programs will play an important role in rural development; however, the vital factors that will determine success or failure of development programs reside in local communities and their ability to generate the social machinery necessary to mobilize human and physical resources efficiently. This is the perspective of development adopted by the President's Task Force on Rural Development (1970, pp. 5-6). In their report to the President, rural development is described primarily in terms of community action. They suggest:

> "The purpose of rural development is to help areas correct their own weaknesses and to help rural people consolidate the strengths of rural living for themselves and others who might live there in the future...
> The real strength of rural development is that it harnesses local energies and is run by local people who know better than anyone their own problems, their own capabilities and their own priorities..."

If this perspective of rural development is to be taken seriously, as we believe it should, the primary need of rural development is to understand more adequately the organization of rural communities and processes that lead more efficiently toward effective community action within the development framework. Social indicator research, in turn, should focus on the development of social indicators capable of monitoring the operation of these action systems. It is at this point that the greatest need currently exists in social indicator research. Little if any of our current effort is directed toward the establishment of indicators designed to assess the operation of social systems. Nearly all the efforts, thus far, to generate social indicators have focused on aggregated data concerning characteristics of society's members, but very little has been done to develop indicators of social organization. It is this type of research effort that we believe should be a major focus of current social indicator efforts.

Both of these perspectives of rural development must be considered important and the type of information required to meet these development needs must be considered basic problems of social indicator research. In turn, both of these information needs provide an important dimension to the understanding of social development of rural communities. On the basis of these two dimensions, an expansion of our interpretive model of a community information system can be developed.

Model of information needs in rural development

The discussion advanced thus far in this section has specified three basic assumptions that underly a model to be outlined in Figure 1. The first assumption suggests that the primary focus of our model will be limited to attempts to specify indicators of social phenomena that are basic to human survival and viability. This we believe will help to avoid some of the issues surrounding the more controversial and normative dimensions fo social development. Secondly, we have suggested that the development process must focus upon and monitor the extent to which the provision of resources necessary for human survival and viability are equitably distributed in human society. Social indicators need to be developed that are designed to monitor inequities in the distribution of the costs and benefits of national development, especially the distribution of resources necessary for human viability. Indicators of this type are primarily aggregated individual data designed to tell us something about the relative well-being or viability of individual members of society.

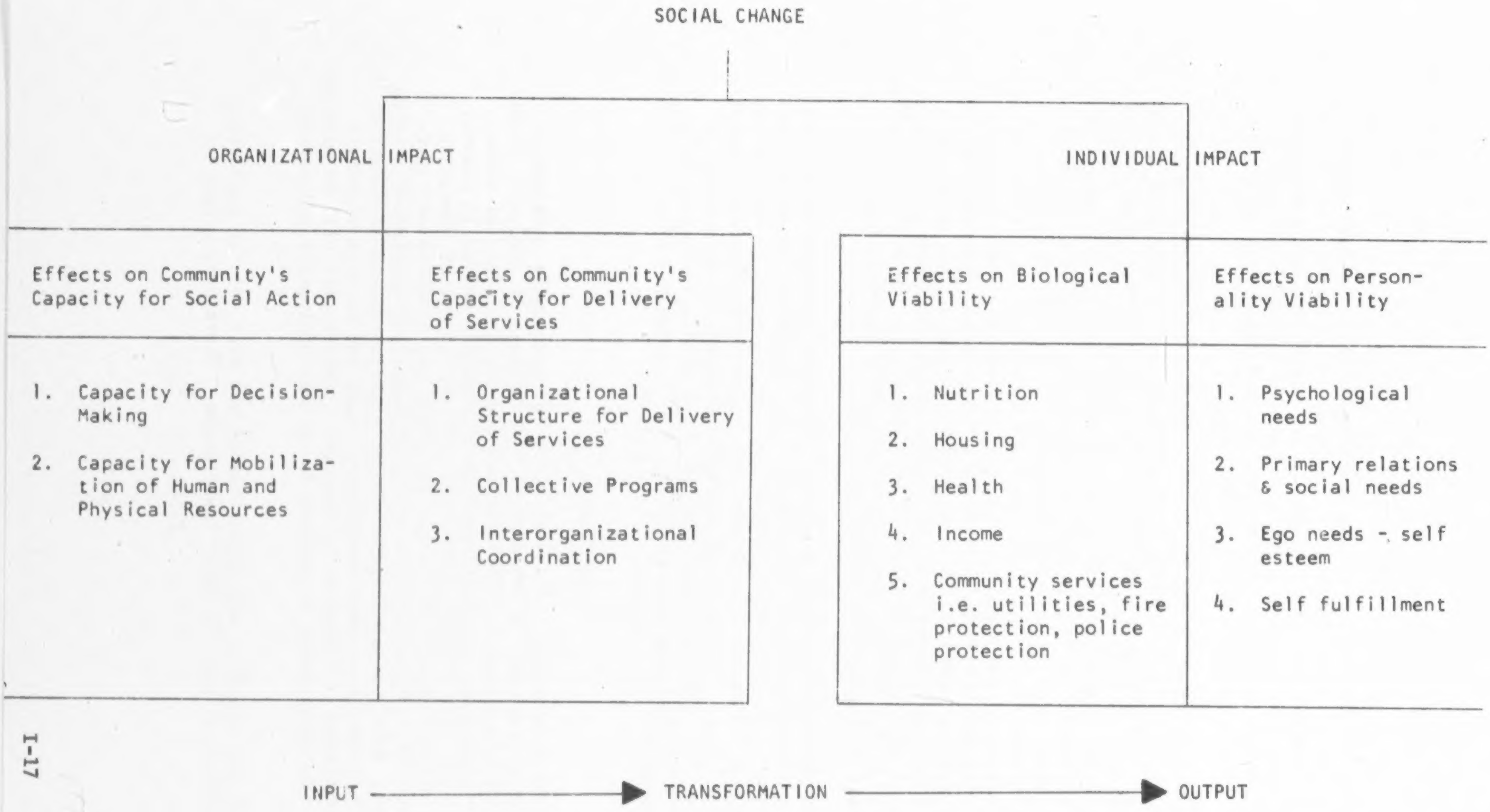
SOCIAL CHANGE
ORGANIZATIONAL IMPACT
INDIVIDUAL IMPACT
Effects on Community's Capacity for Social Action
1. Capacity for Decision-Making
2. Capacity for Mobilization of Human and Physical Resources
Effects on Community's Capacity for Delivery of Services
1. Organizational Structure for Delivery of Services
2. Collective Programs
3. Interorganizational Coordination
Effects on Biological Viability
1. Nutrition
2. Housing
3. Health
4. Income
5. Community services i.e. utilities, fire protection, police protection
Effects on Personality Viability
1. Psychological needs
2. Primary relations & social needs
3. Ego needs - self esteem
4. Self fulfillment
INPUT
TRANSFORMATION
OUTPUT

Figure 1. Model of Information Need in Planned Development

The third assumption concerning information needs in development is the provision of understanding of the community's capacity to deliver services and to mobilize its resources in the process of increasing its capacity to meet individual needs. This concern focuses attention on community viability or organization viability and toward the generation of indicators or organizational performance.

The model presented in Figure 1 represents an interpretive model which attempts to outline important areas of concern in community viability or survival. Attempts have been made to focus attention on organizational process essential to community survival and viability, as well as individual biological and personality needs for human viability. Social organization is viewed, in this model, as the social mechanisms by which individuals enter into cooperative relationships in their efforts to remain viable. Inputs into organizational effectiveness are assumed to come through community-action programs designed to formulate goals of collective action and mobilize human and physical resources. The community's capacity to deliver services, in turn, represent the social machinery through which action takes place and through which transformations occur in delivery of services to members of the community. The individual effects represent the output of the community organization to individuals in terms of their biological and personality needs.

Most of the current effort in social indicator research focuses on aggregated characteristics of individuals and, therefore, represent measures of output. As yet, little effort has been directed to the problem of establishing indicators that assess and monitor organizational capacity to deliver services. The focus of the model proposed in this paper is directed toward an over-all assessment of these interrelated processes of community organization and its capacity to fulfill man's needs in a limited range of social factors essential for viability.

Conclusion

The scope of this paper does not allow for systematic development of the processes involved in these three subprocesses of community development outlined in Figure 1. We believe, however, that each of these subprocesses represent important areas of information needed in planned development, and that preoccupation with only one aspect of community development without equal concern for the other two leads to an information system too restricted to be of an extensive aid in planned development. In this model, we conceive of social organization as cooperative efforts of individuals to meet their basic needs and to gain viability and self fulfillment. Ultimately, community effectiveness will be measured in terms of its performance in meeting individual biological and personality needs.

Individuals, however, are social beings and must rely on collective effort to provide so much of their basic needs. Therefore, simply to focus on community output to members is not enough. Planned development is dependent upon a great deal of understanding of community structure processes including both its capacity for social action and its capacity to deliver services. In terms of the capacity to deliver services, we have long recognized that one of the early effects of population decline is the loss of institutions and organizations most needed to bring about development. Therefore, we believe indicators need to be developed that measure the organizational structure of communities and monitor the types of programs provided through community institutions and organizations and the extent to which these services are coordinated to reduce overlapping and duplicating efforts where resources are limited. There is some evidence, for instance, that programs exist in many communities that are not as effective in serving the population because of an inability to communicate the nature and eligibility of these services to those that might greatly profit from such service.

The capacity for social action, in turn, opens up a wide array of problems and processes too numerous to attempt to outline in this paper. But a few basic concerns include such things as community autonomy, centralization of power, conflict, citizens participation, political discrimination, etc. The development of indicators of this type of social and organizational phenomena is especially difficult, and yet, these factors must ultimately be conceived as the crucial factors that determine the communities capacity to cope with new demands of a changing environment.

Each of these subprocesses or social concerns in community development we believe, represent areas of information needed in planned development. The development of social indicators to assess these social processes effectively will not be something that will come about through short-run reasearch efforts. But, by attempting to outline some of the basic processes in social development, it may be possible to provide more significant long-run research efforts that may eventually aid in the development of models capable of providing the basic information needs in planning for balanced social development.

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FAMILIES AS RESOURCES AND RECIPIENTS IN RURAL COMMUNITY DEVELOPMENT

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"...progress in rural area development depends not only on employment to provide money income but also on development and effective use of human resources for other uses as well."

"...actual involvement in community organizations...far short of what might be desired if it is considered a resource in the process of rural development."

"The nature of consumer interaction with all these sources (goods and services of government and business) may do much to condition the progress of rural development."

IN 1963 THE OFFICE of Public Affairs of the Department of Commerce issued a popular bulletin entitled, "Do You Know Your Economic ABC's?" The purpose was to give a simplified explanation of gross national product and how it mirrors our economy. One feature of the bulletin was its accent on interplay within the "domestic economic triumvirate" about which it was concluded,

> These then are the three domestic contributors to the growth of our GNP: the consumer, the business investor, and the government, and it is well to remember that the healthy interplay of all three of these segments of our economy is necessary to provide the continued economic growth of our country. (1963:35)

Likewise, as we search for answers to questions concerning rural area development--i.e., questions about "Why?", "Where?", "When?", "Who?", and "How?",--we find that these three major segments of consumers, business enterprisers and governments also play essential roles as facilitators, or sometimes as restrainers, of developmental processes. The extent to which effective interplay can be achieved among the actors of these three segments may well be the main factor that will tilt the balance toward success or failure in rehabilitation and growth.

In various ways the papers of this seminar series are focused on selected aspects of business enterprise and government. It is possible, maybe probable, that the parts played by the consumer segment will often be taken for granted with little explicit comment. Or, families and other consumer units will be viewed mainly as recipients of the changes that result from development in their respective communities. In this paper, consumers will be accented as agents in the efforts toward development, that is, as actors who provide resource inputs, along with sharing the benefits of outputs.

Further, on the demand side, the goods and services consumed by these household units are obtained not only from business enterprise but also from several non-market sources that will be mentioned later. The nature of consumer interactions with all these sources may do much to condition the progress of rural development.

After noting some reasons for special attention to the active roles of the consumer segment in the community, I will turn to preliminary findings of recent research and report some answers to the question, "What are families like in small towns of southwestern Iowa, and how do they feel about their communities?"

Domestic Economic Triumvirate--Plus

Although governments and business enterprises are also extensive consumers of goods and services in our nation, or even in a rural community, the term "consumer" usually refers to household units and their members.

Likewise, even though the business enterprise system is usually viewed as the main productive agent of our society, consumers are also producers in the sense that they too do much to create want-satisfying power in people, things and environmental circumstances. After noting some of the kinds of consuming units that reside in households, an extension of the "domestic economic triumvirate" will be proposed and the human resources of consumers as inputs into rural community development will be noted.

Households as consuming units

The terms "household" and "family" are frequently used interchangeably even though this is inappropriate according to the U.S. Census and many of the sociological definitions. For the 1970 Census of Population, all persons were classified as living in either a household or in group quarters. A household consists of all the persons who occupy a dwelling unit as separate housing quarters. That is, a household may consist of, "...a single family, one person living alone, two or more families living together, or any other group of related or nonrelated persons who share living arrangements, except those in 'group quarters'." (1971:2) A house or apartment is considered "group quarters" if it is shared by the person in charge plus at least five persons unrelated to him, or, if there is no person in charge, by six or more unrelated persons. Thus, the planners of the recent census enumeration anticipated the need for appropriate distinctions between a household, a group of unrelated persons sharing a residence, and a special service institution such as a nursing home.

Of course, the people living in group quarters are consumers just as are those in households. But in this paper I am referring only to household consuming units. Another point that should be stressed is that the households in rural communities of Iowa consist not only of families with two or more members who are related by blood, marriage or adoption but also single persons (many of them elderly) and small clusters of unrelated individuals.

Regardless of their composition and internal relationships, these households function as units of consumption of goods and services that are provided by both business enterprise and governments. As consumer-users, they interact directly with business enterprise by effective demand for products through purchase or rental to the extent that their personal choices, incomes and market opportunities permit. Effective demand can be augmented insofar as progress in community development improves their money incomes, their aspirations for goods and services, and their market opportunities.

Even if they choose to save and invest some or all of the income increments that result from progress in community growth, their decisions to restrain demand for goods and services do not necessarily limit market expansion. Their saving and investment behavior can help to provide capital for expansion of enterprises; thus, indirectly, they are consumer-producers instead of consumer-users. I will deal more specifically with the consumer-producer role in rural community development elsewhere in this paper.

With respect to interactions of household consuming units with governments, the prime example is the payment of taxes as required at local, state and national levels. In return, a vast variety of benefits are expected, primarily in services but often in material goods as well. Income, property, sales and excise taxes flow from the pockets of consumers to the respective government services in order to help toward provision of so-called "free goods and services" for themselves and others. Some of these tax-provided goods and services are available to all types of household units. Others can be had only by those with specific status qualifications related to age, marital position, social security, earnings, home ownership, other property assets, etc.

Triumvirate--Plus

Let us turn to an extension of the three-part model used by the Department of Commerce. Three additions seem essential if we are to be realistic about families and other household consuming units as resources and recipients in the rural development process. To conceptualize this extension, I draw particularly on the thinking of Ginzberg (1965:17-32), Bell and Vogel (1968:7-34) and Williams (1951). Ginzberg says, "The models that men use determine both their thoughts and their actions." (p. 17) He urges more extensive recognition of the economic activities of government and of private non-profit enterprise as well as those of private enterprise mainly for profit. When we face reality and note the several sources from which goods and services are obtained by consumers of our nation, or even of any given rural community, it seems imperative that the economic activities of still other social subsystems be recognized. Therefore, I propose that the diagram presented in Figure 1 be noted as a model for thought and action toward rural community development. In it, the paths of reciprocative interplay among the major social subsystems that provide goods and services for consumers are delineated.

Ginzberg views nonprofit institutions as falling between government at one extreme and profit-seeking enterprise at the other. He lists 16 types of non-profit enterprises and characterizes them as follows.

> ...They are often considered "private" because they are not part of government and have none of the powers of government. On the other hand, they are often considered "public" because they serve a public purpose. Since they are considered to be more responsive to community than to personal goals, they are granted certain privileges. Whether an enterprise is designated as profit or nonprofit determines whether or not it must pay income, property, and other taxes; whether gifts or donations which it receives are deductible from gross income in determining the donors' tax liability; whether it is liable for contributions for unemployment compensation and social security for its work force; whether it is obliged to bargain with unions; whether it received special mailing privileges; and whether it is eligible for other types of government assistance, such as surplus property. (1965:21-23)

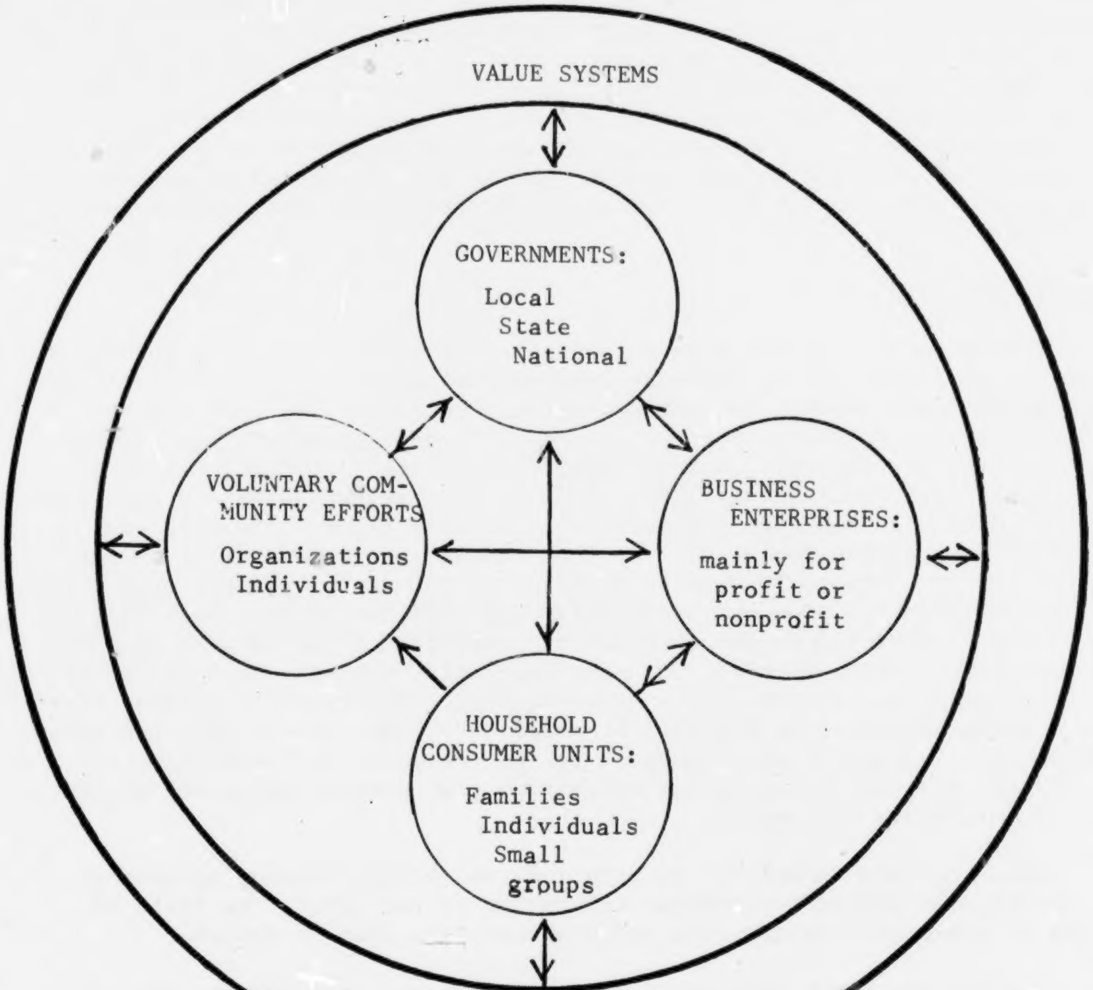
VALUE SYSTEMS
GOVERNMENTS:
Local
State
National
VOLUNTARY COMMUNITY EFFORTS
Organizations
Individuals
BUSINESS ENTERPRISES:
mainly for profit or nonprofit
HOUSEHOLD CONSUMER UNITS:
Families
Individuals
Small groups
VALUE SYSTEMS

Figure 1. - Social subsystems involved in providing goods and services for consumers

Ginzberg concludes,

> "Just as the conventional national income accounting procedures do not accurately reflect the scope of government operations, neither do they adequately present the scope of economic activities carried on by the nonprofit sector." (p. 23)

Among his 16 types of non-profit enterprise are churches, consumer cooperatives, social clubs, foundations, voluntary hospitals, museums, libraries, and professional societies.

A particular example of a special service to consumers by a nonprofit enterprise is the May 1972 issue of the American Association of University Women which is focused entirely on the consumer. Many efforts of the American Home Economics Association also could be classified here. Although it doesn't mention the benefits of such enterprises as YMCA and YWCA, Salvation Army and Good Will, these types of nonprofit organizations provide goods and services to consumers in urban areas and often have extensions or counterparts in rural communities.

If we inventory the various sources from which consumers obtain the goods and services they use each year, we find that nonprofit enterprises of considerable scope often represent an appreciable share of total consumption. Therefore, in Figure 1, I have specified business enterprises of both types, although those that operate mainly for profit would comprise the major share.

The second, and less structured, revision needed in the Department of Commerce model is the addition of a type of social subsystem from which many consumers obtain goods, or services, or both. These sources I have labeled "voluntary organizations and individuals: in that they represent the special efforts of small groups, or often of independent individuals, who give special assistance to disadvantaged consumers. These efforts tend to be localized in the community in such organized community groups as "meals on wheels," FISH, Homes Incorporated, et cetera. Often appreciable amounts of goods and services are received from relatives, neighbors and friends.

As you note the model in Figure 1 you will see two directional arrows that represent the two-way interactions of each of these four social subsystems with each other. For the purpose of this paper, particular focus should be placed on the give-and-take roles--that is, the resource-and-recipient positions and functions of household consumer units as they help to produce as well as to consume the community product. But before further interpretation of the productive roles of households, let me identify the third and last addition proposed for the Department of Commerce model. It relates to interactions of the social subsystems of the community with the human value environments.

Bell and Vogel (1968:7-34) have pointed out explicitly that the economic and other exchanges among the subsystems of our society are conditioned by the value patterns of the people--locally, regionally, nationally, and internationally. Although measurements of the nature and extent of changes in value systems of populations are still limited, one can sense that changes do take place. Social scientists such as Kluckhohn (1958), Williams (1951), Rokeach (1960) and Rucker (1969) have proposed frameworks for consideration of differences in the value systems of population groups at a given time. The point I want to make is that the opportunities for and the actual give-and-take behavior of households with governments, businesses, and voluntary groups are conditioned by the value orientations of each of these elements of the overall community system. Thus the likelihood of success in initiating and achieving change in rural development will depend to considerable degree on the congruency of certain prevailing values with changes that are needed and on the prospects for adjustment in those values that tend to restrain change. These value patterns are rooted in the people of the community who, in turn, are the human resources for rural development.

Human resource inputs

Now let's turn to another framework that is implied in the title of this paper, i.e., families as resources in rural area development. In the traditional economic sense, the market system of production and exchange derives resources from household consumer units in the form of labor, entrepreneurship, land and capital. From the consumer point of view, it seems reasonable to dichotomize these productive agents into human resources (labor and entrepreneurship) and property resources (land and capital assets). That is, consumer inputs into the productive enterprise system of our society involves, to a considerable extent, the productive potentials of household members and the property over which they have rights and control. Resources of time and space must be assumed along with opportunities within the home and community for using these human and property resources in return for monetary or other satisfactions.

Since one of my special interests is the conceptualization and measurement of human resources, let me share with you a diagram of a set of decisions that consuming units make concerning uses of their human resources--decisions that have relevance for community development, either directly or indirectly.

Since World War II the interests of certain economists in human capital have intensified. From among these is Dr. Theordore W. Schultz (1972) of the University of Chicago. As early as the mid-1940's, he was stressing this concept in his classes. Since that time he has done considerable research, writing and speaking on the subject. Last October he spoke on this campus for the College of Home Economics centennial conference on "Families of the Future--A Search for Meaning." Again, in parts of his talk he not only stressed the need for more concern about developing human capital but also called attention to the long overdue recognition of household production and its contribution to the over-all output of goods and services in our nation. A copy of his paper will be in the proceedings of the conference to be published by the Iowa State University Press within a few months. (1972)

Along this line, the thinking of economist Marguerite Burk (1967:123-138) is also worthy of note. In a journal article entitled "On the Need for Investment in Human Capital for Consumption," she has proposed that accomplishment of the objectives of consumption requires six forms of investment in human capital. She itemized them as follows:

1. basic liberalizing education in the humanities, social and natural sciences which affect indirectly one's capacity for satisfaction from consumption;
2. managerial knowledge and skills,
3. consumer technology,
4. knowledge and skills in home production of goods and services for consumption,
5. capacities to learn and innovate, and
6. human value development related to consumption. (p. 124)

Burk, along with Schultz, recognizes the importance of household production--unpaid managerial and performance tasks by and for household members--in the provision of services as well as goods for household consumption. Her delineation of human value development related to consumption has special relevance for recognition of and coping with various problems in public as well as in private life.

Have we diverged too far from our central problem of rural community development? I think not. Our focus is on the creation and use of human resources--of which human capital is a part. To a considerable extent, these resources are developed and nurtured in the household internal environment. In turn, they are allocated among alternative uses offered by the larger community system as well as within the home.

In Figure 2 some attributes of human resources are itemized at the top. Below this specification of types of attributes are five alternative productive systems into which an individual or family may allocate these resources. Different kinds of tasks require various amounts and combinations of attributes for achievement of the outputs expected. A semi-circle encompasses the productive systems (i.e., the ways goods, services and situations are provided to meet consumer satisfactions). From the base of the semi-circle an arrow leads to the end product of rural community development. Each individual as a personality and as a member of a consuming group must decide how much effort, if any, he will put into each of the productive subsystems. That is, he must select the allocative patterns

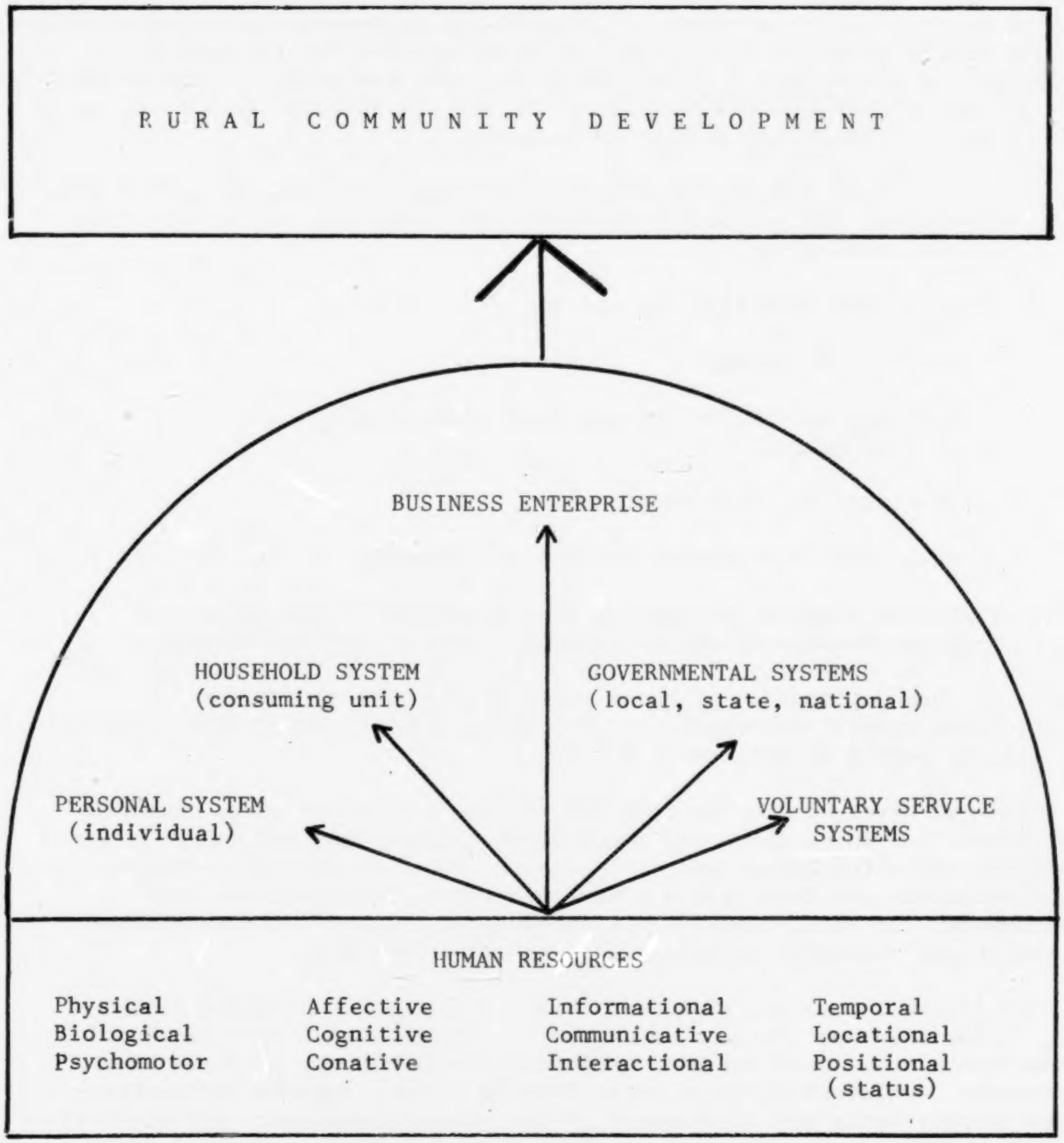
RURAL COMMUNITY DEVELOPMENT
BUSINESS ENTERPRISE
HOUSEHOLD SYSTEM (consuming unit)
GOVERNMENTAL SYSTEMS (local, state, national)
PERSONAL SYSTEM (individual)
VOLUNTARY SERVICE SYSTEMS
HUMAN RESOURCES
Physical
Biological
Psychomotor
Affective
Cognitive
Conative
Informational
Communicative
Interactional
Temporal
Locational
Positional (status)

Figure 2. Alternative allocations of human resources in the rural community development process.

that probably will yield the kinds and amounts of satisfactions he desires for himself and others. The results of his choices, and those of others in his community, will do much to condition the output of that community.

In this context, I would like to propose that in rural area development, focusing on expansion of opportunities for employment is necessary but inadequate. Quality of life is not derived from money income alone. In this vein, I am reminded of the three conditions pointed out by Buchanan and Ellis (1965) as the primary ones involved in economic development of an area, namely: (1) quantity and quality of resources available, (2) effectiveness with which these resources are used, and (3) facilitating circumstances of the cultural and social environment. Thus, progress in rural area development depends not only on employment to provide money income but also on development and effective use of human resources for other uses as well.

Some of you remember Ronald Reagan's slogan on the General Electric program some years ago, "Progress is our most important product." Why not paraphrase this statement and say, "People are our most important products in rural communities."? These people-products emerge from reciprocal interaction and mutual support among segments of the "basic triumvirate--plus," that is, among the "domestic economic triumvirate" of household consuming units, business enterprise for profit, and government, plus business enterprise for non-profit and voluntary systems of various kinds. All of these are catalyzed or restrained according to prevailing value systems and their degrees of openness to change.

Empirical Focus on Small Town Families of Southwest Iowa

Sources of data

During the past five years the Family Environment Department, through its experiment station project 1726, has cooperated with 12 other states on interregional project NC-90, "Factors Affecting Patterns of Living of Disadvantaged Families." Associated with Iowa's part of this study was our state-supported, supplemental project 1737 on "Measurement of Human Resources, Community Opportunities and Patterns of Living." The second section of this paper is focused on selected data from these Iowa projects for 185 small-town families in one part of our state. Eight towns had been selected randomly from a complete list of those with populations from 1,000-2,499 persons in 20 counties of the southwest corner of the state. From each of these towns the Survey Division of the Iowa State University Statistical Laboratory drew randomized segments. Within each segment, interviews were limited to families with one or more children under 18 years of age and a female homemaker (usually the mother) under 65 years of age. The female homemaker served as respondent for each of the 185 families and gave information for a supplemental questionnaire related primarily to the community, including the dwelling units.

The southwest Iowa sample is only one segment of a four-state area that included contiguous corners of Missouri, Iowa, Nebraska and Kansas. The 722 family records obtained in the small towns of this area (often referred to in short as MINK) can provide much information of relevance for rural community development. Data also are available from six states in which the samples were limited to low-income sections of metropolitan areas. One sample was taken from each of the following: Toledo, Ohio; East Chicago, Indiana; Urbana-Champaign, Illinois; Superior, Wisconsin; Las Vegas, Nevada; and Honolulu, Hawaii. Special types of population were sampled in California (Chicanos), Texas (blacks) and Vermont (rural farm and nonfarm). A common interview instrument was used in all states.

A basebook of descriptive findings from sample areas in all 13 states is now being prepared for publication (1973). It will include information concerning family demographic characteristics, resources and resource problems, social structures and interactions, and value-goal orientations. Much interesting information could be shared about patterns of living of families in these selected state environments. Since this seminar series is focused especially on Iowa, however, I have limited this paper to our own data from southwest Iowa towns.

After noting a few of the general characteristics of the families in small towns of southwest Iowa, some answers will be offered to the question, "What were the attitudes of the respondents and practices of their families in relation to their respective communities?" That is, "What seemed to be their community orientations?" Then, attention will be given to family attributes, followed by some of the money income situations of the families and highlights related to transportation, housing and human resources.

Demographic characteristics

One of the forms of disadvantagement in family life is to have one instead of two parents present in the household. Among the small-town families of the southwest Iowa study, approximately one of every seven (14.6%) had only one parent. This proportion, and that of Kansas (15.1%), were almost twice as high as those of Missouri and Nebraska.

The number of persons in the household ranged from two to 10. The median size was four; only one of every 10 families had more than six members. Thirteen, or 7.5 percent of all the families had individuals living with them who were not members of the immediate family. The children were well distributed by age levels. A sixth of the families (17.2%) had only pre-school children while in a fifth (20.3%) the oldest child was 18 or older. Only 24.8 percent of the respondents and 31.5 percent of the husbands were 45 or older; few of either were in their sixties.

The extent to which the residents of small rural communities have rural backgrounds may facilitate community development in some ways and deter it in others. Those who are attached to rural life and choose to live there may be real assets in the developmental process. More negative attitudes may prevail among those who prefer to live in urbanized areas but cannot leave for various reasons. What did we find out about the rural backgrounds of husbands and wives in the small towns of southwest Iowa? Only a third (34.7%) of the respondents, in contrast with 59.1 percent of the husbands, had always lived in rural communities, either farm, open-country nonfarm or small town. At least half of their lives had been spent in rural areas by 84.7 percent of the women and 93.9 percent of the husbands.

Community orientations

How did the respondents feel about the small places in which they and their families were living at the time of the interviews? To what extent were they and their families interacting with various sectors of their communities? Some highlights from the data are given here in relation to residential mobility, respondents' ratings of certain aspects of the community environments, use of home town as a source of consumer goods and services, uses of mass media for news and participation in community organizations.

Mobility

At the beginning of the Iowa Community Supplement the respondents were asked, "How do you feel about this town as a place to live?" Since, in any community, home-owners may tend to respond from different points of view than non-home-owners, the answers obtained have been classified accordingly in Table 1. At least half of the women gave answers to the first four questions that were favorable to their communities. The percentages for home-owners usually were higher than for non-owners. However, less than a fourth of the women answered positively to the question, "Do you think the main earner in your family could find a job as good or better than his present one without having to move from this community?" They reflected an image of better job opportunities in other places. Introduction of more agricultural industry in small rural places probably would have considerable impact on the viewpoints of these residents.

Table 1. Respondents' feelings about their home towns as a place to live.

REALLY FEEL A PART OF THIS COMMUNITY:		
	66.1%	Non-owners
	87.7%	Home owners
DO NOT PLAN TO MOVE DURING THE COMING YEAR:		
	56.4%	Non-owners
	91.1%	Home owners
DURING PAST YEAR, HAVE NOT THOUGHT OF LEAVING THIS TOWN:		
	43.6%	Non-owners
	65.1%	Home owners
WOULD LIKE TO HAVE CHILDREN SETTLE AND RAISE THEIR FAMILIES IN THIS COMMUNITY:		
	51.3%	Non-owners
	56.2%	Home owners
MAIN EARNER COULD FIND JOB AS GOOD OR BETTER THAN ONE HE HAS NOW WITHOUT HAVING TO MOVE:		
	23.1%	Non-owners
	19.2%	Home owners

But to what extent did the families with children under 18 years of age actually change place of residence during recent years? And how long had they lived in their present homes? That is, do families with children in small towns tend to be mainly stationary or mobile? The duration of residence in their present homes ranged from less than one to 30 years; the median length of residence was four years. Only a fourth (23.8%) of the families had lived in their present homes for 10 years or longer.

Shifts in the family populations of these Iowa communities were taking place. One-half (52.7%) of them had not moved during the past five years and four-fifths (82.7%) did not move during the past year. Differences in responses of home-owners versus non-owners to questions concerning expectations about moving away from the town (Table 1) indicate that most of the shifting is done by those who do not own their homes.

Community Services

To what extent did the respondents consider various kinds of local services as inadequate? Information reported in Table 2 gives some answers to this question. For each of 17 services the women were asked about its availability and, if available, to rate it on a five-point continuum from "very poor" to "excellent." Ratings reported in Table 2 for a combination of the "very poor" and "below average" replies reflect the respondents' judgments of relative inadequacy of community services.

Table 2. Community services considered inadequate for family needs

Community Service	Respondents reporting inadequate services[a]			
	Home tenure			
	Owners	Non-owners	All respondents	
	%	%	N	%
Day care for children	78.8	79.5	146	78.9
Movie theater	72.6	79.5	137	74.1
Recreation facilities for youth	61.0	61.5	113	61.1
" " " adults	46.6	61.5	92	49.7
Recreation facilities for the elderly	45.9	56.4	89	48.1
Downtown parking	39.0	30.8	69	37.3
Law enforcement	31.5	38.5	61	33.0
Street conditions	28.1	28.2	52	28.1
Cafe(s)	26.7	20.5	47	25.4
Garbage collection	14.4	20.5	29	15.7
Library facilities	12.3	17.9	25	13.5
Residential parking	11.6	12.8	22	11.9
School building & equipment	13.0	5.1	21	11.4

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[a] "Included are "not available" and ratings of "very poor" and "below average," if available.

Table 2 (continued).

Community service	Respondents reporting inadequate services[a]			
	Home tenure			
	Owners	Non-owners	All respondents	
	%	%	N	%
Street lighting	9.6	12.8	19	10.3
Sewer service	8.2	5.1	15	8.1
Water service	4.8	5.1	9	4.9
Fire protection	2.1	2.6	4	2.2

Day care for children and movie theater were most often considered inadequate for family needs; three of every four women indicated that these needs were of less than average availability. Recreation facilities for youth (61.1%) were next in order of need. Approximately half of the women considered recreational facilities for elderly persons and other adults as less than average.

The other 12 services were rated as "about average," "above average" or "excellent" by more than half of the respondents, indicating relatively greater satisfaction for these community opportunities. This satisfaction may have resulted from comparatively high quantity and quality in these services of their communities or the women may not have been as aware of or concerned about these kinds of community opportunities.

For example, at least one of every seven women gave average or above ratings for garbage collection, library facilities, residential parking, school buildings and equipment, street lighting, sewer and water services and fire protection. If their husbands, public officials or professional and technical workers had been asked to make the same kinds of ratings for community services, the results may have been quite different. Among the several reasons for expecting discrepancies in evaluations of mothers, other family members and private and public employees are differences in time and space horizons as well as personal or professional value priorities.

Other community characteristics. Although the availability of goods and services is a highly important factor in evaluating a community as a place to live, various other characteristics have "push and pull" power, also. If not satisfactory, people who have lived in the community for sometime often are pushed into decisions to leave and non-residents are not "pulled in" to settle there. If average or above in acceptability, these non-service attributes of the community encourage present residents to remain and others to be pulled in from outside.

The mothers in families sampled in the eight small places of southwest Iowa were asked to rate their towns with respect to 10 non-service-oriented characteristics (Table 3). Again, job opportunities for youth and adults were rated as the two most inadequate of the 10 features considered. Approximately two-thirds of the respondents reported these opportunities as below average.

For none of the other eight characteristics did as many as half of the women report below average. However, approximately a third rated opportunities for adult education and attitudes toward industrial development as less than average adequacy. They may have felt as they did about adult education because of lack of awareness of existing opportunities, or real opportunities for this type of education may not have been sufficient for their felt needs. Responses concerning attitudes toward industrial development indicated need for more local consideration of probable gains and losses to the community as a whole if various kinds of industrial enterprises were brought in.

Table 3. Percentage of respondents reporting selected community characteristics as "very poor" or "below average."

Community characteristics	Respondents reporting relatively low ratings of "very poor" or "below average"				
	Home tenure		All respondents		
	Owners	Non-owners			
	%	%	N	%	Rank
Job opportunities for youth	67.8	66.7	125	67.6	1(poorest)
Job opportunities for adults	61.6	66.7	116	62.7	2
Community attitude toward industrial development	35.6	38.5	67	36.2	3
Opportunities for adult education	34.9	38.5	66	35.7	4
Attitudes of businessmen toward industrial development	31.5	30.8	58	31.4	5
Your opportunity to have a say in community affairs	19.9	35.9	43	23.2	6
Participation of people in community affairs	19.2	17.9	34	18.9	7
Your opportunities to get to know people	11.6	20.5	25	13.5	8
Community pride	13.0	10.3	23	12.4	9
Effectiveness of the city government	8.9	10.3	17	9.2	10

Home town as a source of goods and services. Effective demands for goods and services in home towns is conditioned not only by the needs, desires, purchasing power and allocative choices of consumers but also by the convenient availability of the desired products in local markets. Obviously, markets in small rural towns should not be expected to accomodate all demands of families in their community. In the Iowa Supplement on Community Opportunities, the homemakers were asked which of 20 goods and services their families had purchased during the past year. If purchases had been made, they were queried concerning the place the product was most often obtained; that is, in what town or city, and the number of miles that place was from their homes. Information given in Table 4 reveals the percentages of families reported to have made purchases. For those who had brought the particular product, the percentage of families who patronized their home towns and those who usually went to other places are given.

For two-thirds of the products (upper part of the table), the home town was patronized by half or more of the families who purchased. Convenience accomodations (laundromat; barber and beauty shops) and professional services (doctor, lawyer, banker) tended most often to be obtained locally. The fact that dental care and hospital services were obtained in the home town by less than half of the families probably resulted from non-availability of these services in the local community. Other purchases away from home tended to be shopping goods such as clothing, furniture and appliances. A study of market availability and motives of consumers for home versus away-from-home patronage could reveal some of the guidelines needed for fostering and discouraging certain types of markets in a rural community.

News media used. As we all know, news media are powerful tools for diffusing knowledge and alerting the public to relevant issues. In rural community development they can be used to encourage the citizens to compare costs and benefits of alternative ventures, to assess their own values and goals, and to participate in development of policies and programs for betterment of the community. But which of the several media do families in small towns of southwest Iowa tend to use? Toward the close of our interviews the respondents were queried as follows: "We are interested in the different ways that families keep in touch with the NEWS. Which of the following do you use?" The media listed in Table 5 were then mentioned, the extent of use was asked for, and the specific source of radio, television and newspaper information was requested.

Extensive use of television newscasts and daily newspapers was reported by approximately three of every four respondents and two-thirds said their families read the weekly paper for news. Only 40 percent said that the radio was "used much" and news magazines were an infrequent source. These findings indicate that information related to rural community development would probably be more extensively disseminated by way of television and the particular newspapers on which the people of the community depend than by radio or news magazines.

Table 4. Comparative extent of use of home town as source for purchasing consumer goods and services. (Iowa household sample only).

Consumer good or service	Bought good or used service during 1970		Obtained good or service most often in:			
			Home town		Other place	
	N	%	N	%	N	%
Laundromat	63	63.9	61	96.8	3	3.2
Barber shop	168	90.3	150	89.3	18	10.7
Hardware supplies	139	74.7	122	87.8	17	12.2
Beauty shop	129	74.7	119	85.6	20	14.4
Drugs and prescriptions	181	97.3	153	84.5	28	15.5
Auto repairs	142	76.3	116	81.7	26	18.3
Banking services	176	94.6	143	81.3	33	18.8
Building materials	101	54.3	77	76.2	24	23.8
Small loans	82	44.1	62	75.6	20	24.4
Dry cleaners	160	86.0	116	72.5	44	25.5
Lawyer's services	76	40.9	51	67.1	25	32.9
Doctor's services	182	97.8	114	62.6	68	37.4
Locker service	25	14.0	15	60.0	19	40.0
Car or truck	64	34.4	36	56.3	28	43.8
Major household appliances	75	40.3	34	54.3	41	54.7
Dental care	154	82.8	64	41.6	90	58.4
Everyday clothing	182	97.8	75	41.2	107	58.8
Furniture	72	38.7	28	38.9	44	61.1
Dress clothing	170	91.4	53	31.2	117	68.8
Hospital services	74	39.8	11	14.9	63	86.3

Table 5. Ways families keep in touch with the news.

News media	Percentages by frequencies of use			
	Don't use	Use some	Use much	Rank for "use much"
Watch TV newscasts	3.8	23.2	73.0	1½
Listen to radio	9.2	50.8	40.0	4
Read daily newspaper	15.1	11.4	73.5	1½
Read weekly newspaper	16.2	16.2	67.6	3
Read news magazines	70.8	15.1	14.1	5

Community participation. One could hypothesize that families who are active in community organizations would be more prone to be concerned about maintenance and development of the area. In the NC-90 interview instrument used by all cooperating states, the respondents were asked to what extent they or their husbands, or the two of them together, attended each of six types of community organizations on a regular basis. The percentages of families who were participating were as follows: church, 49.2; recreation groups, 40.8; groups connected with church, 30.2; lodge, VFW, et cetera, 29.2; PTA or other community groups, 27.5; and unions or other job-connected groups, 19.4.

The six community participation scores were added to obtain an overall indication of the participation of parents. Although the potential range of total scores was from six to 18, more than half (55.7%) were in the range of six to eight. Less than a third (29.7%) had totals of nine to 11, and the remaining scores (14.6%) totaled from 12 to 16. Further, in a fifth (21.1%), neither the husband nor the wife was reported as regular attendants in any of the six types of organizations. Thus, actual involvement in community organizations seemed to be far short of what might be desired if it is considered a resource in the process of rural development. To diffuse ideas to non-participatory localities and to motivate them for action and change would often have to be achieved through other means.

Money Incomes

Amounts and sources

For 176 of the 185 families in the sample, inventories were made of amounts of income received for the 1970 calendar year from specific sources listed under eight general classifications, namely; earned income (take-home pay), returns from investments, social security, benefits related to job, armed service benefits, welfare payments, legal arrangements and gifts and inheritances. Total money income was computed by summation of receipts from all sources. Withholdings from earned income, other than those for taxes, and commitments to make regular payments were also recorded.

Four interpretations of money income were used, three of which appear in Table 6. Total money income was the sum of annual receipts from all sources except gifts and inheritances. Disposable money income was total money income plus non-tax withholdings. Poverty threshold was an estimate of annual money income required for each family for a near-subsistence level of consumption, with consideration given to age and sex composition as well as family size. (See footnote "c", Table 6.) Finally, an income index was computed for the 179 families who reported income by dividing the poverty threshold into the total money income.--a rough estimate of income adequacy.

With respect to both total and disposable incomes, the southwestern Iowa families in small towns were quite well distributed along a range from under $5,000 to $11,000 and over. The respective medians were in the $7,000 to $8,000 level. Although four-fifths of the poverty thresholds were under $5,000, only a tenth were under $3,000.

For each contribution of $100 or more per year to earned income, records were made of the type of occupation, amounts of time worked, and total take-home pay received for the year. Only 2.8 percent of the 176 families who reported income had no earned income and only three of the 166 husbands were not employed. Occupations of the husbands were most often identified as skilled (22.3%), semi-skilled or operative (24.9%) and professional (22.3%). Approximately one of every six of the husbands was self-employed in business, including three who were farm operators.

Approximately half of the respondents (52.3% of 172) were earning and 7 percent of them were contributing 50 percent or more of the total money income. Their most frequent rate of contribution was from a fourth to a half of the total money income. They most often were in occupations classified as "skilled". In a fifth of the families, children were also contributing to the money income. Because of the proneness of wives and children to be employed and also in view of the fact that one of every five families had children living at home who were 18 years of age or older, it is to be expected that the respondents would be concerned about job opportunities. This concern is verified by other findings reported elsewhere in this paper.

Since families today often receive their money incomes from a variety of sources, one wonders how large a share the earned income is of the total. In our sample for southwest Iowa, 85.2 percent of the families derived at least three-fourths of their incomes from earnings in private enterprise

Table 6. Distributions of families by money income and poverty threshold.

Amounts	Distributions of families			
	Total money income from all sources		Poverty thresholds[a]	
	N	%	N	%
Under $3,000	6	3.4	20	10.8
$3,000 - $4,999	22	12.3	127	68.6
$5,000 - $6,999	46	25.6	31	16.8
$7,000 - $8,999	37	20.7	7	3.8
$9,000 - $10,000	33	18.4	0	0.0
$11,000 and over	35	19.6	0	0.0
Total	179[b]	100.0	185	100.0

[a] Poverty thresholds were computed for each family by a procedure recommended by Jean Pennock, Chief of the Family Economics Section, Consumer and Food Economics Division, Agricultural Research Service, U.S.D.A. It is based on subsistence level requirements of urban families according to their respective size, age and sex compositions. The food cost base used was about 20 percent below the low level estimates reported by the Consumer and Food Economics Division.

[b] No income information was obtained from six families.

or paid employment. Welfare benefits were reported by only 4.0 percent of the respondents. Only eleven respondents said that the family had ever received a welfare check at any time since the family had been formed.

Relative adequacy - measured and perceived

An income index, used to indicate the comparative adequacy of income for consumption, was obtained by the formula $\text{I.I.} = \frac{\text{total money income}}{\text{poverty threshold}} = 100.$ Thus, a family with an income index of 100 had money income equal to its poverty threshold. Since income information was not obtained from six of the respondents, income indexes are available for only 179 families (Table 6).

The median income index was 195 and one-half the families had indexes of 150 to 249. Thus, compared with others in their small town communities, those with income indexes under 150 tended to be disadvantaged income-wise and others with indexes of 250 or higher were relatively advantaged. Only 14 (7.8%) of the 179 families had income indexes lower than their poverty level requirements. Thus, according to the measures used, more families in the small towns were monetarily "well off" than "impoverished".

Table 7. Distributions of families by income index[a]

Income index levels	Distributions of families		
	Number	Percent	
Under 075	8	4.5	25.8
075 - 099	6	3.4	
100 - 124	15	8.1	
125 - 149	17	8.9	
150 - 199	47	26.2	49.6
200 - 249	42	23.4	
250 - 299	18	10.1	23.7
300 - 349	14	7.8	
350 and over	12	6.7	
Total	179	100.0	100.0

[a] The income index of each family was computed by dividing its poverty threshold into its total money income and multiplying the result by 100.

But how did the women who served as respondents for their families feel about the relative adequacies of their family incomes. Some clues are given in their answers to the question, "To what extent do you think your income is enough for you to live on?" The replies were distributed as follows:

2.2% Not at all adequate.
5.9% Can meet necessities only.
62.7% Can afford some of the things we want but not all we want.
17.3% Can afford about everything we want.
11.9% Can afford about everything we want and still save money.

When these distributions are compared with those of the income indexes in Table 7, it is apparent that several of the respondents in monetarily disadvantaged families did not view their family incomes as inadequate as might be expected. Further study of family circumstances associated with (a) income indexes and (b) perceptions of family members concerning income adequacy, could reveal reasons why low-income families often "feel" better off than their incomes appear to justify. Since any appraisal of income adequacy will be based on some criterion of desirability, attention should be given to the standards of consumption encompassed in the aspirations of family members. Ways in which low-income families adapt their aspirations to images of reality, and the changes that tend to take place in aspirations when their resources are increased, should also be examined.

Money problems

Respondents were asked, "All families have some problems when it comes to spending money. Aside from not having enough money, which of the following problems do you have and how often do you have this problem?" Then 11 kinds of problems were specified, to each of which the respondent selected one of the following to represent the usual frequency of the problem in her family: "often," "sometimes," "seldom," "never." When the replies of "often" and "sometimes" were combined, the five most frequent problems related to the following:

48.7% Not able to save to have something to fall back on.
31.2% Not able to buy special things my kids want.
25.4% Not able to meet large bills.
21.3% Do not have enough money for dentist, doctor, or medicine.
18.4% Cannot afford to buy new shoes or clothes.

Thus, at least one in every five families reported that they had these types of money problems while less than one of every 10 were concerned about money for food (7.5%), equipment (7.0%), rent (4.4%), utilities (1.1%), spent by others (7.5%) and money lost (1.0%).

Other Resources

Transportation

Ninety or approximately one-half (51.7%) of the main earners traveled one mile or less to work and 12.1 percent from two to 10 miles. The other most frequent distances traveled were 25 to 49 miles by 12.1 percent and variable distances by 13.8 percent. Although the usual means of transportation to work was by own car (94.6%), an eighth of the respondents said a car pool was used all or part of the time. In answer to the question, "How often do transportation problems affect the chances of the main income earner in getting or holding a job?", 91.6 percent said, "Never." Some of them may not have been aware of transportation problems that did arise.

Housing

The character of the dwelling places of the residents probably is a key factor in rural community development. Reasonably satisfactory housing tends to condition decisions of families who stay and those who decide to settle in the area. When we interviewed the families with children in small towns of southwest Iowa, several techniques were used to obtain indications of the character of family dwellings, especially with respect to the relation of housing to comparative adequacy of income. One of these procedures was to ask the respondents, "In general, how would you rate the availability of decent housing to families in this community?" They were asked to respond on a five-point continuum ranging from "very poor" to "excellent." More than half of the respondents gave ratings of "very poor" (23.4%) or "below average" (34.2%). A third said "average" but only eight women (4.3%) gave "above average" ratings. According to these responses, there was much room for improvement of dwellings in the community. Further study is under way to assess the validity of the respondees.

Immediately after leaving the home the interviewer completed a checklist of nine items related to the quality of the dwelling place, with special attention to the interior, exterior and neighborhood conditions. The scores for these items seemed to scale adequately to be summed for an over-all score for assessed housing quality. When these scores were coded on a continuum from 1 to 9, about half of the dwellings were middle range of 4 to 6 and the remainder were almost equally divided between comparatively low (22.9% coded 1 to 3) and relatively high (26.4% coded 7 to 9). Thus, a normal distribution was indicated. At any rate, it is apparent that at least one of every five residences in the small towns had considerable room for improvement. A study by Yearns (1972) and other work under way will more specifically delineate the character of housing in the small towns of southwest Iowa, and various associated factors.

Since the proportion of elderly persons in these small towns is relatively high, information concerning their housing and other ways of life are especially relevant considerations in overall programs of rural community development. A thesis by Angell (1972) and a project report by Powers (1971) provide much relevant information concerning patterns of living of the elderly in the small towns of southwest Iowa. Further study is needed of the resource situations and living patterns (a) inadequacies of community services (governmental, business and voluntary) for meeting needs of the residents and (b) potentials for improving household inputs into the community development process.

Human resources

The most essential ingredient of "community" is people -- human beings who are both capable for and motivated to interact reciprocally with others. These interactions may be manifest in individuals who behave either individually or as members of groups.

Individual patterns of identification with others range from limited to expansive horizons within which the interactions may vary from simple to complex, passive to active, and destructive to constructive. Groups may be informal, face-to-face dyads and clusters of personalities along a continuum to the much more formalized and comprehensive social subsystems of households, voluntary community organizations, business enterprises, and governments. The nature of the interactions within and among these groups is conditioned by the human value orientations of individuals, small groups (including families), communities, regions, and nations, and by subcultures within each of these. In turn, over time, value systems themselves may be changed by the feeling, thinking and acting behavior of the humans involved, either as individuals or as members of organizations.

Through their reciprocal relations and behaviors with others, families and their individual members become producers as well as products of communal cooperative efforts. In rural communities, as in others, they obviously are the receivers of the products of success and failure. But also, to differing extents, they are participants in the process of producing development. If valid and reliable measurement of human resources were possible, it would not be surprising to find their functioning as the most potent of the basic factors that contribute to success or failure of development.

In the empirical section of this paper, less specific attention has been given to human resources than to others; they are represented indirectly, however. Much more definitive research is needed. As suggested in my diagram in Figure 2, the attributes of human resources to be measured are extensive. Our usual measures of formal education, physical health and practical skills are highly important, but they fall far short of what is essential if we are to describe, compare, evaluate, explain and predict the true functions of human attributes in the community development process, and to identify primary targets for human development per se. Sound evidence of reduction of inequities within and among rural communities awaits progress in measurement of human beings and family groups as resources and as recipients of community development.

Summary

The purpose of this paper has been three-fold: (1) to conceptualize family-type households as consumer subsystems that interact reciprocally with other social subsystems of government, business enterprise, and voluntary community efforts, (2) to accent functions of families as providers of resource inputs as well as receivers of outputs related to rural community development, and (3) to focus on small towns of southwest Iowa for a description of resource characteristics of families who live there. Consideration of these ideas and the factual information given should contribute to reduction of inequities among human beings within and among rural communities.

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POPULATION REDISTRIBUTION IN THE WEST NORTH CENTRAL STATES

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"Metropolitan counties are considerably more likely to grow than nonmetropolitan counties."

"...we still know far too little about the consequences of rapid population growth or extended decline upon the community and its institutions, and about both the people who stay and those who go."

"...the institutional arrangements and the quality of life for citizens living in situations of sustained population decline must continue to receive considerable attention by governmental policy-makers and governmental agencies at all levels..."

THE POPULATION of the United States has always been characterized by growth, but among the areas of the country this growth has been very uneven. There has been a continuing concentration in urban and metropolitan areas, along with a recent shift to the seacoasts of our country, whereas decline has been the rule in many other sections. Concern about the possible negative consequences of this redistribution or rearrangement of the population has led to proposals for a population distribution policy to slow down or reverse current trends, and programs such as those in rural development have been justified in part by their consequences for population distribution. (U.S. Department of Agriculture, 1968; National Goals Research Staff, 1970; Ahlgren, 1971; Commission on Population Growth and the American Future, 1972).

To understand recent changes and to plan for those in the future, we need more detailed knowledge of population changes. This paper is an analysis of population redistribution in the seven states of the West North Central region. Data employed are from the United States Census for the period 1950 through 1970.

In studying population, analysts often need to turn to units larger than states. There are none uniquely appropriate, but Census regions and divisions have traditionally been used. Thus the West North Central division has the advantage of being generally familiar, though the states cannot be said to constitute a geographic or economic entity. As will be shown, however, their population change experience has been quite similar. For earlier work on the North Central region as a whole, see Marshall (1959), and Beegle, Marshall, and Rice (1963).

Units of study in this analysis consist of all counties and incorporated places in the West North Central division. For each census year, metropolitan territory includes all counties in 1960 Standard Metropolitan Statistical Areas, plus additional counties adjacent to 1960 SMSAs and given metropolitan status in 1963 on the basis of 1960 census data showing them to have metropolitan characteristics.

RESULTS

Population Shifts Among the States

The West North Central census division stands out as an area of slow growth and decline in population numbers. Both in the 1950-60 and the 1960-70 periods the rate of growth was approximately half that of the United States as a whole, and the lowest of any division. The first two columns of Table 1 show, moreover, that there is variation in rate of growth among the seven states of the division, but no state grew as much as the United States in either decade. All states had a lower growth rate in the most recent decade than the 1950s, as did the nation: the sharpest drop was experienced by Kansas, and two states, North and South Dakota, registered absolute declines in population over the latter period. The highest rates of consistent growth over these 20 years was recorded for the two most urbanized states, Minnesota and Missouri.

In the next three columns of Table 1, the population of the region is distributed by states for the three census years under consideration. There is very little change in distribution over that time, with Minnesota and Missouri showing slight relative gains and Iowa and South Dakota comparable losses.

The last three columns of the table show the declining relative importance of these states to the U.S. total, a consequence of their slower growth. The greater concentration of population elsewhere in the United States is indicated by the fact that these seven states include less than 10 percent of the total national population, whereas they encompass 14 percent of its land area.

County Population Change

These state growth figures, of course, summarize considerable variation within their territories. One way to indicate this is by considering counties as a unit of analysis and distributing them according to percent change of population over a given decade. This is done in Table 2, which shows that over two-thirds of the 619 counties in the West North Central division declined for the 1960-70 period. Again, Minnesota and Missouri stand out as having a greater tendency for growth; in both these states approximately half of the counties declined, and in the other states the percentages ranged from 71 for Kansas to 89 for North Dakota.

Comparisons with other divisions of the country may be made from Table 3. It shows the highest proportion of counties achieved high growth rates in New England and the Pacific division between 1960 and 1970. Lowest growth rates were in the West North Central states, followed by the contiguous West South Central and Mountain states. Much of the territory of these three divisions makes up the area known as the Great Plains.

Population redistribution is not a random process. Within the United States, we know that interregional shifts have made for an increasing concentration in the West and the extreme South, partly at the expense of the West North Central States. The other major trend has been that of metropolitan and urban development. This trend is associated with industrialization, lower labor requirements in agriculture through technological change, and transportation improvements, making possible among other things, a wide dispersal of the population around larger cities. With metropolitan development has come greater interdependence of all parts of society, urban and rural, and so one would expect location with respect to the metropolis to be an important organizing principle in the study of population change.

Here I have extended the analysis of growth rates for counties by classifying them according to metropolitan status as of 1963, and the number of miles from the center of the county to a metropolitan central city. In addition, the possible importance of smaller urban places was taken into account by classifying nonmetropolitan counties by the size of the largest city in the county as of 1960. Counties are classified within these categories by percent change over both the 1950-60 and the 1960-70 decades in Table 4.

The advantage of metropolitan location for growth is clearly evident by comparing the total metropolitan and nonmetropolitan lines. Over the last decade only 11 percent of the metropolitan counties lost population, compared to 71 percent of the nonmetropolitan counties. The table also shows fewer rapidly-growing metropolitan counties in the latest decade compared with the 1950's, but little difference for the nonmetropolitan counties.

In comparing nonmetropolitan counties according to distance to nearest SMSA central city, one finds that more remote counties are less likely to grow. Within 50 miles of a central city, 50 percent of the counties were declining in the 1950s and the 1960s. About 70 percent declined in both zones more than 50 miles away, but the proportion declining 10 percent or more is higher for those counties more than 100 miles from a central city. Comparison of the two decades reveals a slight indication of higher levels of growth in the latest decade within 50 miles of a central city, and of lower levels more than 100 miles from central city. Thus, metropolitan counties are more likely to be growing rapidly than nonmetropolitan; and for the latter counties, being near a SMSA central city increases the likelihood of growth.

Similarly, a positive association prevails between growth and size of the largest community in the county. In fact, this appears to be stronger than the association of growth with the three distance bands. Note, for example, that 4 percent of the counties with places over 10,000 declined 10 percent or more in the 1950s; whereas this was true of 53 percent of those having only places under 2,500.

Distance and size of largest place are considered simultaneously in the remainder of Table 4, and the results are consistent. Thus the greatest tendency for growth is found for metropolitan counties, and next for nonmetropolitan counties with larger cities within 50 miles of a central city. Almost two-thirds of the remote counties without places over 2,500, on the other hand, declined 10 percent or more over each decade, and only 14 percent grew at all. The data may be viewed another way as follows: between 1960 and 1970, of 240 counties declining more than 10 percent, half were in remote locations (more than 100 miles from a central city,) and had no urban centers, and only 5 were within 50 miles of a central city. Of the 79 counties growing 10 percent or more over this decade, 33 were metropolitan or within 50 miles of a central city, and only eight were more than 100 miles from a central city with no urban center.

Metropolitan counties were also classified by size of place, according to whether or not they had a city of more than 50,000 in 1960. This should separate the central city counties from those adjacent counties designated as metropolitan because of close ties to the metropolis. Decentralization is indicated by the greater tendency for growth in the counties with smaller cities, particularly in the 1960-70 period. Recall that in this analysis, to give constant boundaries, the 1963 SMSA designation is used. By 1970 there were a number of additional SMSA counties due both to the growth of new central cities to over 50,000, and to the recognition of counties adjacent to already existing SMSAs.

Population Redistribution and Location of Groups of Counties

The next consideration is the redistribution of population in the West North Central division from the standpoint of metropolitan location and size of largest place in the county. For this analysis I added together the populations of the counties in each group considered in Table 4 for 1950, 1960, and 1970. The results are presented in the first three columns of Table 5.

There has been very little redistribution of population among the states of the division according to Table 1. But Table 5 shows a considerable shift between nonmetropolitan and metropolitan locations, even using an unchanging set of metropolitan boundaries. The proportion metropolitan shifted from 39 to 48 percent in the 20-year period.

The population has remained constant for the sum of those nonmetropolitan counties within 50 miles of a central city. The nonmetropolitan decline is distributed over both of the other distance bands. The proportion of the population in counties 50-99 miles from a central city dropped from 28 to 24 percent, and that in counties more than 100 miles away dropped from 25 to 20 percent. Consideration of the size of largest place distinctions shows, however, that this decline in the more remote locations is limited to counties with largest place less than 10,000. Thus remote counties with cities over 10,000 have retained their portion of the total population of the division.

The two right hand columns of Table 5 show that the population increment over each decade has been distributed among the various county groupings. The metropolitan growth has been virtually 100 percent of the total over both decades, but the table indicates that the negligible contribution to growth for nonmetropolitan areas is actually a net result. Positive increments from counties with places over 10,000, and those within 50 miles of a central city having cities 2,500 up to 10,000 have offset the losses of other county groupings. Over the second decade there is an increase in the proportion of the positive increment represented by the counties within 50 miles of a central city, and also those more than 100 miles from a central city having within their boundaries centers of greater than 10,000 population.

Population Change of Incorporated Places

This analysis has shown the importance of cities in the redistribution of population in terms of the influence on growth both by the metropolis, and by the presence of cities of various sizes in nonmetropolitan counties. Next we need to consider directly the growth trends of incorporated centers in the West North Central states. Table 6 gives the distribution of places by percent change for the two decades classified according to metropolitan status and initial size. With the county analysis, the same units were involved in a given location category for both decades under consideration. This is not true for places, since the total number increased from 4,290 in 1950 to 4,490 in 1960, due to 200 new incorporations. The classification by size of place, moreover, is at the beginning of each decade, and a number of places moved from one size group to another over a 10-year period.

Between 1950 and 1960 there were 16 places dropped by the census, and 40 places between 1960 and 1970. Presumably these disincorporated or merged with other cities. Because of their small number, they have been excluded entirely from this analysis. Incidently, it is clear that despite the population decline experienced by many towns and villages, few are actually disappearing.

The results of Table 6 parallel those for counties in showing a greater tendency for growth in metropolitan areas. Here the 20 central cities of the region are singled out, as well as other places in 1960 urbanized areas (that is, in the thickly settled territory surrounding central cities which has been delineated by the census). Decentralization in metropolitan areas is indicated by the fact that the highest proportion of rapidly growing cities is recorded for places in the urbanized area that are not central cities. Central cities have about the same growth distribution as the metropolitan places outside urbanized areas in the 1950s and a lower growth distribution in the 1960s. Further comparison of the two decades shows that both central cities and other places in urbanized areas had a lower growth distribution in the 1960s than in the 1950s, but other metropolitan places, outside the thickly settled territory surrounding the central city, had about the same distribution over both 10-year periods.

The distribution of places by growth is lower for nonmetropolitan places than for any metropolitan segment for either decade. Almost one-third of these approximately 4,000 places declined by more than 10 percent over the 1950-60 decade, and the same was true for 1960-70. Specifically, between 1960 and 1970, 1,255 nonmetropolitan places declined more than 10 percent in population in the West North Central states, compared to 1,228 in the earlier decade.

Many studies have associated initial size of place with the population change of smaller cities and towns (e.g., Ratcliffe, 1942; Brunner and Smith, 1944; Hassinger, 1956; Hart and Salisbury, 1965; and Fuguitt, 1971). Most of this research has shown that larger places are more likely to grow, and to grow at a faster rate than smaller places. This is consistent with the view that smaller cities and towns have been hurt because of a centralization of trade and services, particularly since the widespread use of the automobile after about 1920. With improved transportation, rural people have had a wider range of choices of places to go, while their demands for services have become more varied and specialized. In this kind of a changing situation, larger places should have a competitive advantage and thus grow more rapidly than smaller ones.

Results here support the earlier research. Even in metropolitan areas, where the size of a specific place would not seem to be as significant in the complex of residential, service, and commercial locations, there is a positive association between initial size of place and the distribution by percent change. In an earlier analysis with 1950 through 1970 data, (Fuguitt, 1971) I noted that the association between size of place and growth is becoming less marked in some parts of the country because of a decline in the growth distributions for larger places, and a slight increase for smaller places, when the 1960-70 period is compared with 1950-60. This is true for the West North Central states, as indicated by Table 6. There are slight increases in the proportion growing (on the order of two or three percentage points) for places under 1,000 in initial size, but for centers over 2,500 there is a noticeable decline in growth distribution in the latest decade.

Nonmetropolitan places are classified by location and size of largest place in their counties, as well as initial size in Table 7. To make the table manageable, I condensed the dependent variable, substituting the percent of places declining for the distribution by percent change over a decade. The results are generally consistent in showing a negative association between decline (or a positive association between growth) and nearness to a central city, size of largest place in the county, and initial size of place. Though there are some exceptions, the ranking of percentages shows that these factors generally operate simultaneously and independently of each other. Considering all three variables together, there is a very great range in growth levels. Thus between 1950 and 1970, no place of over 10,000 declined if it was less than 50 miles from a central city, and only 24 percent of the places 2,500 to 10,000 declined in this location: whereas 78 percent of the places declined that were under 2,500, more than 100 miles from a central city, and in a county with largest place under 2,500.

This table also shows the decline in the growth levels of places over 10,000 in the most recent decade, except for places within 50 miles of a central city (there are only nine of these). This decline is more marked for the 50-99 mile band than the 100-and-over band, so that for 1960-70, 47 percent of the places 10,000 and over were declining within 50-99 miles of a central city, and 26 percent were declining of those located more than 100 miles from a central city.

At the same time, there is some drop in the proportion of places declining in the three smallest size groups within 50 miles of a central city, and 50-99 miles from a central city. In counties more than 100 miles from a central city, however, there is generally an increase in the proportion of smaller places declining except in counties with largest place over 10,000.

Growth In and Out of Incorporated Centers

The last table gives aggregate percent change figures for the population in and out of incorporated centers within the various location categories. This has been done by relating data on groups of counties with that for groups of places within corresponding areas. For a given category, the number of places is constant over each decade. Thus, the population in new places first reported in 1960 is considered to be outside incorporated centers in the 1950-60 computations, but is included for 1960-70. Similarly, the population of new places in 1970 is counted as outside incorporated centers in the 1960-70 figures. As noted previously, the centers dropped by the census after 1950 have not been considered in this analysis.

The patterns of growth for metropolitan and nonmetropolitan areas are in contrast here. Decentralization is shown for metropolitan areas, with growth outside incorporated places more pronounced than inside such centers. The relatively constant population in nonmetropolitan areas, on the other hand, is a balance of moderate growth inside against decline outside places, (the decline outside was approximately 10 percent per decade). In other words, there has been a centralization process going on in the nonmetropolitan sector, with an increased proportion of the population residing in incorporated places and an absolute decline outside these places.

This general pattern is found for all location and size-of-largest-place categories of the nonmetropolitan population, except that in counties with no city over 2,500 and more than 100 miles from a central city the aggregate place population declined as well as the population outside places. As would be expected from the analysis of growth distributions of individual places, the aggregate increase of place population is generally greater the larger the largest community, and except for the 0-to-49-mile band, the decline of the nonplace population is least where the size of largest place in the county is over 10,000. This greater population retention around larger nonmetropolitan cities suggests a spread of influence around such cities, affecting population distribution probably in part through the economic opportunities made available by commuting.

A comparison of the two decades shows a lower metropolitan growth both inside and outside incorporated places, and a lower nonmetropolitan growth inside incorporated places in 1960-70 compared to 1950-60. Previous analysis indicates that this lower nonmetropolitan growth of places is mostly due to larger cities over 10,000. The increase in the rate of decline for territory outside incorporated places within 50 miles of a central city is puzzling, and may be due to the expansion of incorporated centers through annexation. All place population segments over 100 miles from a central city grew less in 1960-70 than in 1950-60. Note, however, that in this distance band the population outside places declined 8 percent in 1950-60 in counties with largest center over 10,000, but declined only 2 percent in the subsequent decade, again indicating greater population retention there.

SUMMARY

1. The West North Central division is growing less rapidly than the nation, and less than any other census division. This group of seven states had 9.3 percent of the nation's population in 1950, and 8 percent in 1970.

2. There was little net shift in population among the states of the division over the 20-year period. Minnesota and Missouri, the most urbanized states, had higher rates of growth than the others, whereas two states, North and South Dakota, declined over the last decade.

3. Moving to a smaller geographic unit, this study found considerable variation in county population change, with decline the prevailing tendency. Over two-thirds of the counties in the division declined over each decade. Among the states, only Minnesota and Missouri had as few as half of their counties decline between 1960 and 1970, when this was true of 44 percent of the counties of the nation.

4. County population change is systematically associated with degree of urban and metropolitan development. Metropolitan counties are considerably more likely to grow than nonmetropolitan counties. Among nonmetropolitan counties there is a reasonably consistent, simultaneous association between growth and (a) distance to nearest SMSA central city, and (b) size of largest incorporated place in the county. When these factors are combined, extreme differences are evident: for example in the 1960s, 85 percent of the counties declined that were more than 100 miles from an SMSA central city and had no town over 2,500; whereas only 12 percent of the nonmetropolitan counties declined that were within 50 miles of a central city and had a city over 10,000.

5. Populations were aggregated for these groups of counties to consider redistribution since 1950. There was a fair amount of concentration in metropolitan counties over the 20-year period, with the proportion of the population that is metropolitan (using a constant 1963 boundary) increasing from 39 to 48 percent. The corresponding proportional loss was in counties more than 50 miles from a central city not having places over 10,000. The remote counties with larger cities, however, are holding their own in terms of relative population, and in fact those more than 100 miles from a central city captured a larger proportion of total division population growth in 1960-70 than 1950-60.

6. The growth and decline of cities and towns was examined separately, and associated with initial size of place and the location variables. The findings parallel those for counties in terms of location and size of largest place in the county, with large differences in the proportion of places growing between remote counties having only small villages and counties adjacent to SMSAs with larger nonmetropolitan cities. Initial size of place is positively associated with growth of cities and towns, and this is consistent with trends toward centralization of trade and services. In the latest decade, however, places over 2,500 were not as likely to grow as they were in the 1950s.

7. The population change in and out of incorporated places was compared for the various location groupings. Decentralization in metropolitan areas was evident in that population in cities and towns was growing less rapidly than the balance. The reverse was true for all nonmetropolitan categories. Over-all, the nonmetropolitan segment had an almost constant population over both decades, but this was because of growth of cities and villages of somewhat less than 10 percent, balanced by a 10 percent decline outside incorporated centers.

SOME IMPLICATIONS FOR RURAL DEVELOPMENT

This analysis of population redistribution within the seven states of the West North Central division has shown population change for counties, cities, villages, and open country to be closely associated with the structure of urban and metropolitan development of the nation. This supports the view of Hathaway, Beegle, and Bryant (1968) who postulated that rural America may be regarded as the hinterland of a series of metropolitan regions.

But more than this, the research indicates the importance of larger nonmetropolitan cities and towns, because outside metropolitan areas, stability or growth is more likely to be found in and near such places.

Thus, these findings support the view that rural development must take place in the context of urban and metropolitan development, but that in this process the nonmetropolitan city should not be overlooked. Earlier research has shown some evidence of a population growth effect around nonmetropolitan cities in the North Central region as a whole and in the South, consistent with the population decentralization (Fuguitt, 1971). There is little evidence to support decentralization around nonmetropolitan cities over 10,000 in the West North Central states, but there does seem to be greater relative population retention in counties containing such cities than in other nonmetropolitan counties. Moreover, size of largest community in the county is at least as important as distance to a metropolitan center in predicting county population change. Reasons behind the decline in the proportion of larger nonmetropolitan places growing in the 1960s as compared with the 1950s in the West North Central states, as in the remainder of the nation, need to be determined, particularly if such places are to figure in a growth center strategy.

Drawing further implications from these findings depends upon a more explicit understanding of the relationship between population change and rural development. Policy makers have favored a population distribution policy to increase population in nonmetropolitan areas and slow growth in and around our large cities. But some people are questioning the desirability of growth even in nonmetropolitan areas, and there is increasing recognition that population change may not be the most appropriate social indicator of the need for rural development programs, or of their success.

The large population declines recorded in nonmetropolitan parts of the West North Central states may be viewed as a catastrophic process demanding reversal, or as a successful adjustment to technological change. (See discussion in Tweeten, 1970, esp. p. 374). The problem is that we still know far too little about the consequences of rapid population growth or extended decline upon the community and its institutions, and about both the people who stay and those who go. Further systematic research is needed over a wide variety of situations.

But one cannot help but be moved by the extent of chronic decline revealed by this research. In these seven states more than 1,200 incorporated centers declined more than 10 percent over 1960-70, and this was true of approximately the same number over 1950-60. Similarly, about 200 counties--almost one-third of the total--declined more than 10 percent in each of the two decades. One may not wish to turn these trends around, and the sheer numbers involved may be an effective argument against attempting to do so. But such extensive population decline must in many localities call for drastic adjustments in the maintenance of local government with declining numbers of taxpayers, in educational facilities to meet the needs of young people who will soon move, and in the provision of welfare needs and other public services for an aging popultaion. As Heady (1972) indicates, goals for rural development must differ for different types of communities, and cannot always include increasing industry and population. But the institutional arrangements and the quality of life for citizens living in situations of sustained population decline must continue to receive considerable attention by governmental policy-makers and governmental agencies at all levels, by citizens' groups, university extension services, and persons involved in academic research.

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Table 1

Population Change in the West North Central States, 1950-1970

	Percent Change		Percent by Region			Percent of U.S.		
	1950-60	1960-70	1950	1960	1970	1950	1960	1970
Minnesota	14.5	11.5	21	22	23	2.0	1.9	1.9
Iowa	5.2	2.4	19	18	17	1.7	1.5	1.4
Missouri	9.2	8.3	28	28	29	2.6	2.4	2.3
North Dakota	2.1	-2.3	4	4	4	.4	.4	.3
South Dakota	4.3	-2.2	5	5	4	.4	.4	.3
Nebraska	6.5	5.1	9	9	9	.9	.8	.7
Kansas	14.3	3.1	14	14	14	1.3	1.2	1.1
West North Central	9.5	6.0	100*	100*	100*	9.3	8.6	8.0
United States	18.5	13.3				100*	100*	100*

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*Total population of the West North Central is: 1950-14,061,342; 1960-15,394,115; 1970-16,324,771.
Total population of the United States is: 1950-151,325,798; 1960-179,323,175; 1970-203,211,926.

Table 2

Distribution of Counties by Percent Change, States of the West North Central Division, 1960-70

Distribution by Percent Change

	Loss		Gain		Total	(N)
	10%+	0-9%	0-9%	10%+		
West North Central States	34	34	20	12	100	(619)
Minnesota	14	37	28	21	100	(87)
Iowa	24	51	19	6	100	(99)
Missouri	17	31	29	23	100	(115)
North Dakota	69	19	4	8	100	(53)
South Dakota	43	36	9	12	100	(67)
Nebraska	46	26	22	6	100	(93)
Kansas	41	30	19	10	100	(105)

Source: U.S. Bureau of the Census, U. S. Census of Population 1970, Number of Inhabitants, Final Report PC(1)-A1 United States Summary, p. 113.

Table 3

Distribution of Counties by Percent Change for Regions and Divisions, United States, 1960-70

Regions, Divisions and States	Distribution by Percent Change				Total	(N)
	Loss		Gain			
	10%+	0-9%	0-9%	10%+		
United States	17	27	26	30	100	(3120)*
Northeast	1	18	37	44	100	(217)
New England	3	9	29	59	100	(67)
Middle Atlantic	0	22	42	36	100	(150)
North Central	21	29	27	23	100	(1055)
East North Central	3	23	37	37	100	(436)
West North Central	34	34	20	12	100	(619)
South	16	28	25	31	100	(1422)
South Atlantic	11	28	25	36	100	(588)
East South Central	14	32	32	22	100	(364)
West South Central	24	27	20	29	100	(470)
West	21	19	18	42	100	(426)
Mountain	28	22	17	33	100	(279)
Pacific	8	12	22	58	100	(147)

*Does not include 19 census divisions in Alaska, Menominee County, Wisconsin, and Chesapeake City, Virginia.

Source: U. S. Bureau of the Census, U.S. Census of Population 1970, Number of Inhabitants, Final Report PC(1)-A1 United States Summary, p. 113.

Table 4

Distribution by Percent Change of Counties Grouped by Metropolitan Status, Size of Largest Place in the County in 1960 (SLP) and Distance to a Central City, West North Central States 1950-60 and 1960-70

Metropolitan Status, Distance and SLP Status	Distribution by Percent Change										
	1950-60					1960-70					
	Loss		Gain		Total	Loss		Gain		Total	(N)
	10+	0-9	0-9	10+		10+	0-9	0-9	10+		
All Counties	31	35	20	14	100	33	34	20	13	100	(619)
Metropolitan	3	3	5	89	100	3	8	30	59	100	(37)
SLP 50,000+	5	5	5	85	100	4	14	36	46	100	(22)
LT 50,000	0	0	7	93	100	0	0	20	80	100	(15)
Nonmetropolitan	32	37	21	10	100	35	36	19	10	100	(582)
SLP 10,000+	0	23	39	38	100	4	31	37	28	100	(79)
2500-9999	18	46	28	8	100	24	45	25	6	100	(221)
LT 2500	52	34	11	3	100	53	30	10	7	100	(282)
Less than 50 miles from a central city	17	33	31	19	100	6	42	35	17	100	(64)
SLP 10,000+	0	13	25	62	100	0	12	50	38	100	(8)
2500-9999	12	32	38	18	100	0	44	41	15	100	(34)
LT 2500	32	41	23	4	100	18	50	18	14	100	(22)
50-99 miles from a central city	27	44	21	8	100	29	43	19	9	100	(226)
SLP 10,000+	0	27	33	40	100	6	37	37	20	100	(30)
2500-9999	21	51	25	3	100	24	50	21	5	100	(104)
LT 2500	44	41	12	3	100	42	36	11	11	100	(92)
100+ miles from a central city	39	32	20	9	100	46	30	16	8	100	(292)
SLP 10,000+	0	22	46	32	100	2	32	34	32	100	(41)
2500-9999	18	46	26	10	100	32	40	23	5	100	(83)
LT 2500	59	29	9	3	100	62	24	9	5	100	(292)

Table 5

Distribution of Total Population and Interdecade Population Increase for Counties Grouped by Metropolitan Status, Size of Largest Place in the County in 1960 (SLP), and Distance to a Central City, West North Central States, 1950, 1960, 1970

Metropolitan Status Distance and SLP Status	Percent Distributions Total Population 1950	1960	1970	Population Increment 1950-60	1960-70
Metropolitan	39	44	48	98.9	101.8
Nonmetropolitan	61	56	52	1.1	-1.8
Less than 50 miles from a central city	8	8	8	3.3	8.6
SLP 10,000+	2	2	2	2.7	5.8
2500-9999	4	4	4	1.3	2.5
LT 2500	2	2	2	- .7	.3
50-99 miles from a central city	28	26	24	.5	-4.4
SLP 10,000+	7	8	7	7.9	3.4
2500-10,000	14	11	11	-4.4	-5.5
LT 2500	7	7	6	-3.0	-2.3
100+ miles from a central city	25	22	20	-2.7	-6.0
SLP 10,000+	8	8	8	8.9	12.5
2500-9999	9	8	7	-2.4	-8.0
LT 2500	8	6	5	-9.2	-10.5
TOTAL	100	100	100	100	100
(Population)	(14,061,342)	(15,394,115)	(16,324,771)	(1,332,773)	(930,656)

Table 6

Distribution by Percent Change of Incorporated Places Classified by Metropolitan Status and Initial Size, West North Central States, 1950-60 and 1960-70

Metropolitan Status and Size at Beginning of Decade	Distribution by Percent Change											
	1950-60						1960-70					
	Loss		Gain		Total		Loss		Gain		Total	
	10%+	0-9%	0-9%	10%+		(N)	10%+	0-9%	0-9%	10%+		(N)
Metropolitan												
Central Cities	5	5	25	65	100	20	5	30	20	45	100	20
Other in urbanized areas	1	11	6	82	100	140	10	12	12	66	100	185
Not in urbanized areas:												
10,000+	0	0	33	67	100	3	25	25	0	50	100	4
2500-9999	0	16	42	42	100	12	11	14	11	64	100	28
1000-2499	0	4	21	75	100	24	5	5	24	66	100	41
500-999	7	9	13	71	100	45	5	9	11	75	100	57
LT 500	15	15	16	54	100	151	20	16	10	54	100	143
Total	7	11	14	68	100	395	12	14	12	62	100	478
Nonmetropolitan												
10,000+	0	14	30	56	100	80	6	26	27	41	100	88
2500-9999	2	19	35	44	100	272	8	29	32	31	100	297
1000-2499	10	31	30	29	100	555	12	31	31	26	100	567
500-999	23	27	27	23	100	722	21	27	28	24	100	685
LT 500	44	22	16	18	100	2266	43	20	17	20	100	2375
Total	31	24	22	23	100	3895	31	24	22	23	100	4012

Table 7

Percent of Places Declining by Metropolitan Status, Size of Largest Place in the County in 1960 (SLP) Distance to a Central City and Initial Size, West North Central States, 1950-60 and 1960-70

	Percent Declining 1950-60						Percent Declining 1960-70					
	Size in 1950						Size in 1960					
	LT500	500-999	1000-2499	2500-9999	10,000+	Total	LT500	500-999	1000-2499	2500-9999	10,000+	Tota
Nonmetropolitan Total	66	49	41	21	14	55	63	48	43	37	32	55
LT 50 miles from a central city	49	28	30	13	11	39	46	20	25	24	0	35
50-99 miles from a central city	68	52	42	24	9	57	61	47	40	36	47	54
SLP 10,000+	50	33	30	38	9	40	48	38	23	43	47	43
2500-9999	70	49	33	24*		56	62	49	51	36		55
LT 2500	73	62	30			66	66	49	37			56
100+ miles from a central city	70	57	45	20	12	59	71	61	53	42	26	64
SLP 10,000+	53	54	39	14	12	45	53	39	34	43	26	45
2500-9999	70	53	41	21*		57	72	70	56	42		65
LT 2500	76	61	48*			68	78	63	57			71

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*Includes one or two places in next larger size category as of 1950. They were shifted to make the size in 1950 classification consistent with the SLP in 1960 classification.

Table 8

Percent Change of Population in and out of Incorporated Places for Counties Grouped by Metropolitan Status, Size of Largest Place in the County in 1960 (SLP), and Distance to a Central City, West North Central States, 1950-60 and 1960-70

	1950-60			1960-70		
	Total	Inside Incorporated Places	Outside Incorporated Places	Total	Inside Incorporated Places	Outside Incorporated Places
Metropolitan	23.9	17.6	53.3	13.8	12.5	20.9
Nonmetropolitan	.2	9.1	-10.1	-1.1	6.4	-9.7
Less than 50 miles from a central city						
SLP 10,000+	12.5	17.8	- 9.0	16.8	24.0	-22.3
2500-9999	2.9	11.5	- 6.1	3.9	10.6	- 4.4
LT 2500	-3.1	4.2	- 6.9	.9	10.8	- 5.1
50-99 miles from a central city						
SLP 10,000+	9.9	13.9	- .7	2.7	4.2	-1.7
2500-9999	-3.2	5.6	- 1.7	-2.9	5.5	-14.9
LT 2500	-3.8	.2	- 6.1	-2.1	3.1	- 5.2
100+ miles from a central city						
SLP 10,000+	10.2	17.6	- 8.1	9.1	12.5	-1.9
2500-9999	-2.6	6.6	-11.8	-6.3	.4	-14.7
LT 2500	-10.9	-2.0	-16.2	-9.8	-3.8	-14.1

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A PLAN FOR THE DISTRIBUTION OF PHYSICIANS AND THE HEALTH CARE UNITS NEEDED TO PROVIDE HEALTH SERVICE IN IOWA

By John C. MacQueen, M.D.
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"The fact that there has been a limited amount of planning concerning the health care system has resulted in the development of a limited body of knowledge about health planning."

"...there is essentially no rural health care system."

"We are, in fact, at a time when the needs of physicians and the needs of patients must be incorporated in a plan."

THE AMERICAN SOCIETY has become a complex of interrelated and interdependent systems. For such a society to function, some degree of planning of the systems must occur. Experience has shown that the social and economic systems are so interrelated that planning for one system must recognize the goals and impact of other systems.

Planning has become an accepted activity of the business community. Some public systems as the educational system and the highway system have developed sophisticated planning methods. These activities have resulted in the development of a body of knowledge about the methods of planning public programs and has resulted in a public understanding of the importance of planning.

However, not all systems in the American society have participated equally in planning. It is generally accepted that the American Health Care System has developed with a modicum of planning and that many of its current problems are related to a lack of organization. It is frequently referred to as a "non system." The fact that there has been a limited amount of planning concerning the health care system has resulted in the development of a limited body of knowledge about health planning.

One result of the lack of health planning is the present shortage of physicians. This problem is most acute in the ghettos of large cities and in the rural areas of the nation. This report is concerned with the shortage of physicians in a rural state.

During the last two decades there has been a remarkable decline in the number of physicians practicing in all of rural and semi-rural America. This has resulted in a near collapse of the rural health care system. This problem as it relates to Iowa is graphically shown in Maps I and II.

During this period of time there has been a migration of physicians to our larger towns and cities. In Iowa, with very few exceptions, all medical specialists practice in 19 larger towns and cities (Map III). Fifty-four percent of all physicians practicing in Iowa now practice in these towns and cities. Thirty-seven percent of the total population reside in these towns and cities.

This concentration of people and physicians in cities and suburbs is the common pattern throughout the nation. At the present time 85.7 percent of the physicians live and practice in metropolitan areas where 73.4 percent of the population of the nation reside.

The recent past has been a period of remarkable advance in the technology of farming. This has resulted in an increase in the size of farms and a decrease in the number of farm families. As the farm population has become less dense, it has become more difficult to provide services. Rural areas have made adjustments to these problems. The family-owned grocery store that previously existed at every crossroads has been consolidated into the supermarket that provides a retail outlet in the adjoining town. The small retail outlets that provided farm supplies in every hamlet have been consolidated and exist as the retail outlet in the adjoining town. The small rural school has been replaced by the consolidated school in the adjoining town. This adjustment has not occurred without financial hardship nor without considerable community debate. Nevertheless, these changes have occurred and now represent the modern farm community scene.

Many of the same reasons that caused the family-owned grocery store to close caused the Iowa family physician in the small town to close his practice. In contrast to those involved with retail business and in schools, however, the physician did not move to the adjoining town--he moved to the city. The result is that there is essentially no rural health care system.

This report is concerned with this problem, and one of its major purposes is to describe the health units that could function in a stratified system to provide rural health care.

There is abundant evidence that the number and distribution of physicians in the American rural health care system is rapidly deteriorating. Information concerning this problem in Iowa is presented in the statistical section of the plan that follows.

This plan is concerned with the distribution of physicians needed to provide health services in Iowa.

The method used in developing the plan is relatively simple. It makes no effort to determine exactly what health services are needed nor exactly how these health services should be provided.

During the past decade thousands of in-depth health studies have been conducted in an effort to collect that information. There have been questionnaires, sampling studies, contact interview studies, outcome studies, efficiency studies, patient satisfaction studies; to date we know little more than we did before these efforts. It is apparent that the tons of information that have been collected and which now exist on computer printouts does not provide precise information about what health services are needed and how they should be delivered.

This report takes the position that there is no advantage in wasting further resources and time in trying to obtain this information. The answers to improving the health care system will not be found by studying the present arrangement that is not working. Rather, it is proposed that we use the information now available concerning health services and their provision to create a new arrangement that is geared to the modern farm community scene. We must carefully develop new models, evaluate their success, and move with some haste to apply the information to create a new arrangement designed to provide modern health services in a modern rural setting.

The ingredients of the plan are quite simple.

There is information concerning the geographical distribution of people.

There is an accepted body of knowledge concerning the health care services that people need.

There is an accepted body of knowledge concerning the number of physicians and other health personnel required to provide these services.

There is information concerning the financial resources and the transportation capabilities of communities.

There is information concerning the availability of medical referral services.

There has been a recent experience with a variety of new types of health care units.

These factors are used in the design of a new arrangement for delivering health care in Iowa.

It is generally accepted that health care must be comprehensive. Comprehensive health services include preventive services, screening and identification services, primary care, secondary care, tertiary care, emergency service, chronic and rehabilitative services. (Diagram I)

The plan is based on the concept that comprehensive care is a composite of those services that may be needed by an individual at different times, and that comprehensive care cannot be provided in a single health care unit. (For example, a family physician may provide quality primary services but he cannot provide complicated diagnostic and therapeutic services. A medical center can provide quality diagnostic services but cannot provide primary care.) Therefore, comprehensive care requires the development of a stratified system of health services. This plan identifies the health care units needed to provide the various types of services in a stratified health care system.

The plan describes the health care units needed to provide a statewide comprehensive health care system.

If a health care system is to be successful, it must consider the needs of people for health services and it must consider the needs of those who provide the services. The day is past when every small hamlet can have a fully trained physician. The day is also past when the medical community can ignore the request of people for available, high quality medical care. We are, in fact, at a time when the needs of physicians and the need of patients must be incorporated in a plan. This plan describes the health care units that constitute a compromise solution.

There is no doubt that the ideas included in the plan will be debated. There will be those who wish to change the ingredients of the plan. Some will propose the area to be served should be larger and some will say smaller. Some will present the case for a further centralization of health services. However, quantitative changes of the ingredients of the plan should not disqualify the basic concept of the need and wisdom of developing a plan that describes the health units.

It is recognized that this plan is concerned with only one part of the health system--with the physicians. The question will be asked whether it is possible to conduct planning for one subsystem of health. The response to this appropriate question is that physicians are the key to providing health services. The physician alone has the training needed to provide medical services, and until we agree upon the arrangement within which he can work, the remainder of the health system can at best be uncertain and can, in fact, be out of joint.

Specifically, this plan takes the position that hospital facilities and health programs must be planned to function at the convenience of people and of physicians if they are to continue to function effectively. The plan would be concerned about an approach to health planning that has as its base the present hospital system. Too frequently hospitals have been built because of community pride or in an effort to "control" the area health care system. The State of Iowa is currently plagued with a number of under-utilized and, therefore, very expensive health facilities that are not in keeping with the modern rural scene.

The plan appreciates that there are a number of subsystems in the health care system, e.g., the emergency health care system and the systems for providing long-term care, the patient transportation system. The plan believes that one of the reasons that these systems are functioning poorly is that there is not an adequate plan for the distribution of appropriately trained physicians to work in those subsystems.

The plan is presented with the hope that the ideas and statistics presented in the proposal can be used as a basis for comprehensive planning that will include facilities and programs.

The plan is presented in conjunction with the proposal to develop Area Health Education Centers in Iowa.

Many studies have been conducted as to the factors that physicians consider when they choose where to practice. These studies show that two factors that are inherent in the Plan are important in making the decisions.

- Physicians select sites of practice that are near a medical center where continuing medical education is available. They do not wish to practice in professional isolation.

- Physicians select sites of practice close to the place where they took graduate training.

The plan takes the position that it is uncertain that physicians will elect to practice in Area Health Centers unless they are related to Area Health Education Centers. Such educational centers will provide an opportunity for the physician to have a vital on-going educational experience. Such centers will be the training site for the medical trainee and will introduce the student to the advantages of the area as a site of practice.

There are several reasons for developing the plan:

There is a need for a public document that describes a reasonable distribution of physicians needed to provide health services.

Regional health planning agencies need quidelines to consider as they conduct health planning.

Health educators need a better yardstick as to the number and type of physicians that should be trained if the State is to have an adequate health manpower pool.

Those who are planning specialized service programs, e.g., emergency care units--transportation programs--need more information about where physicians will practice.

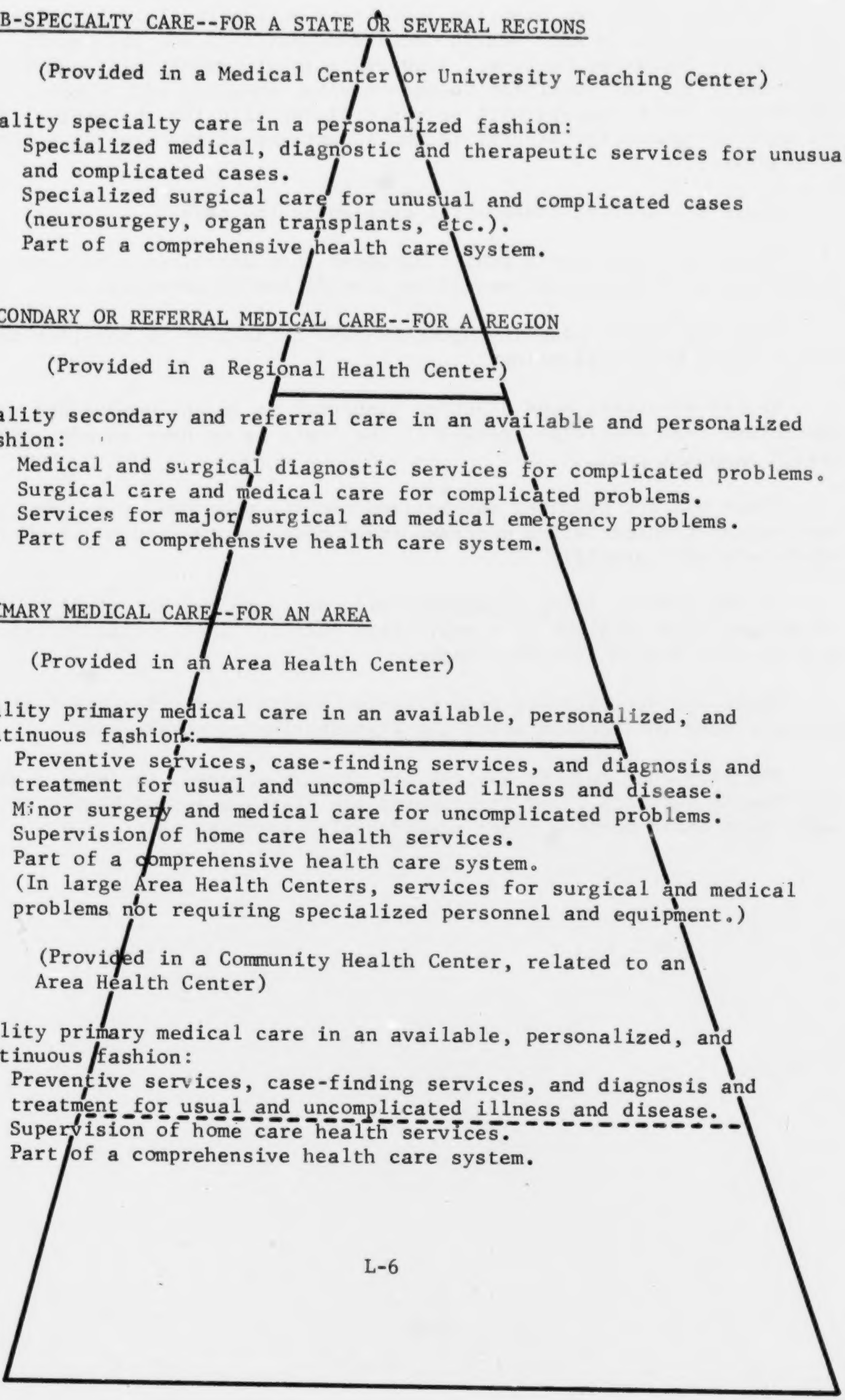
In the future, young physicians will be recruited not alone by the advantages of a town but by a state plan that includes a relationship with an Area Health Education Center.

Those who are involved with planning health facilities and health programs need information about the distribution of physicians.

The plan that follows has, as its primary concern, the people who need health services. And it proposes the distribution of health care units that could provide those needed health services.

Diagram I

THE HEALTH SERVICES AND MEDICAL CARE PROVIDED IN A STRATIFIED HEALTH SYSTEM



SUB-SPECIALTY CARE--FOR A STATE OR SEVERAL REGIONS

(Provided in a Medical Center or University Teaching Center)

Quality specialty care in a personalized fashion:

1. Specialized medical, diagnostic and therapeutic services for unusual and complicated cases.
2. Specialized surgical care for unusual and complicated cases (neurosurgery, organ transplants, etc.).
3. Part of a comprehensive health care system.

SECONDARY OR REFERRAL MEDICAL CARE--FOR A REGION

(Provided in a Regional Health Center)

Quality secondary and referral care in an available and personalized fashion:

1. Medical and surgical diagnostic services for complicated problems.
2. Surgical care and medical care for complicated problems.
3. Services for major surgical and medical emergency problems.
4. Part of a comprehensive health care system.

PRIMARY MEDICAL CARE--FOR AN AREA

(Provided in an Area Health Center)

Quality primary medical care in an available, personalized, and continuous fashion:

1. Preventive services, case-finding services, and diagnosis and treatment for usual and uncomplicated illness and disease.
2. Minor surgery and medical care for uncomplicated problems.
3. Supervision of home care health services.
4. Part of a comprehensive health care system.
5. (In large Area Health Centers, services for surgical and medical problems not requiring specialized personnel and equipment.)

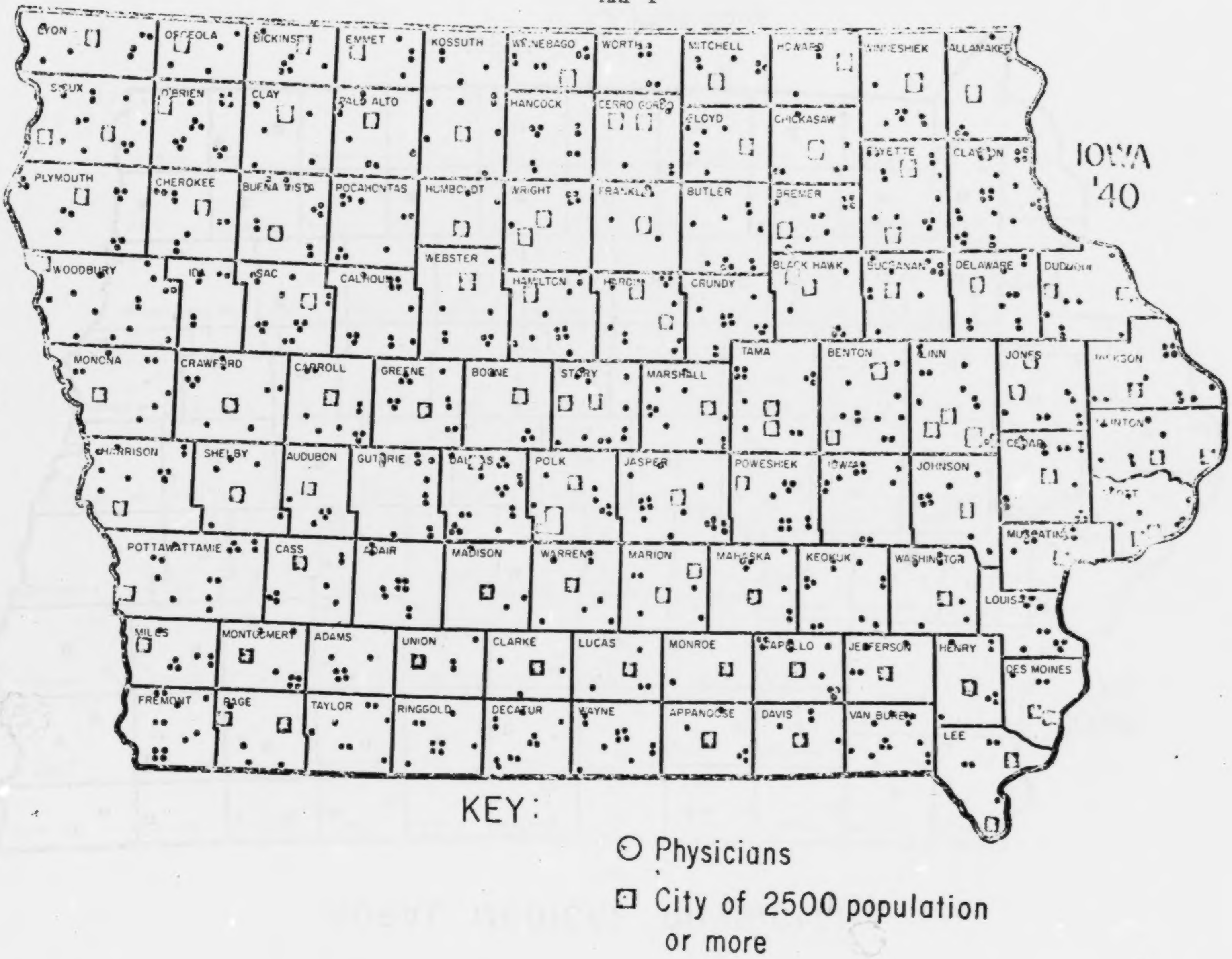
(Provided in a Community Health Center, related to an Area Health Center)

Quality primary medical care in an available, personalized, and continuous fashion:

1. Preventive services, case-finding services, and diagnosis and treatment for usual and uncomplicated illness and disease.
2. Supervision of home care health services.
3. Part of a comprehensive health care system.

RURAL MEDICAL PHYSICIANS

MAP 1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DAVIS
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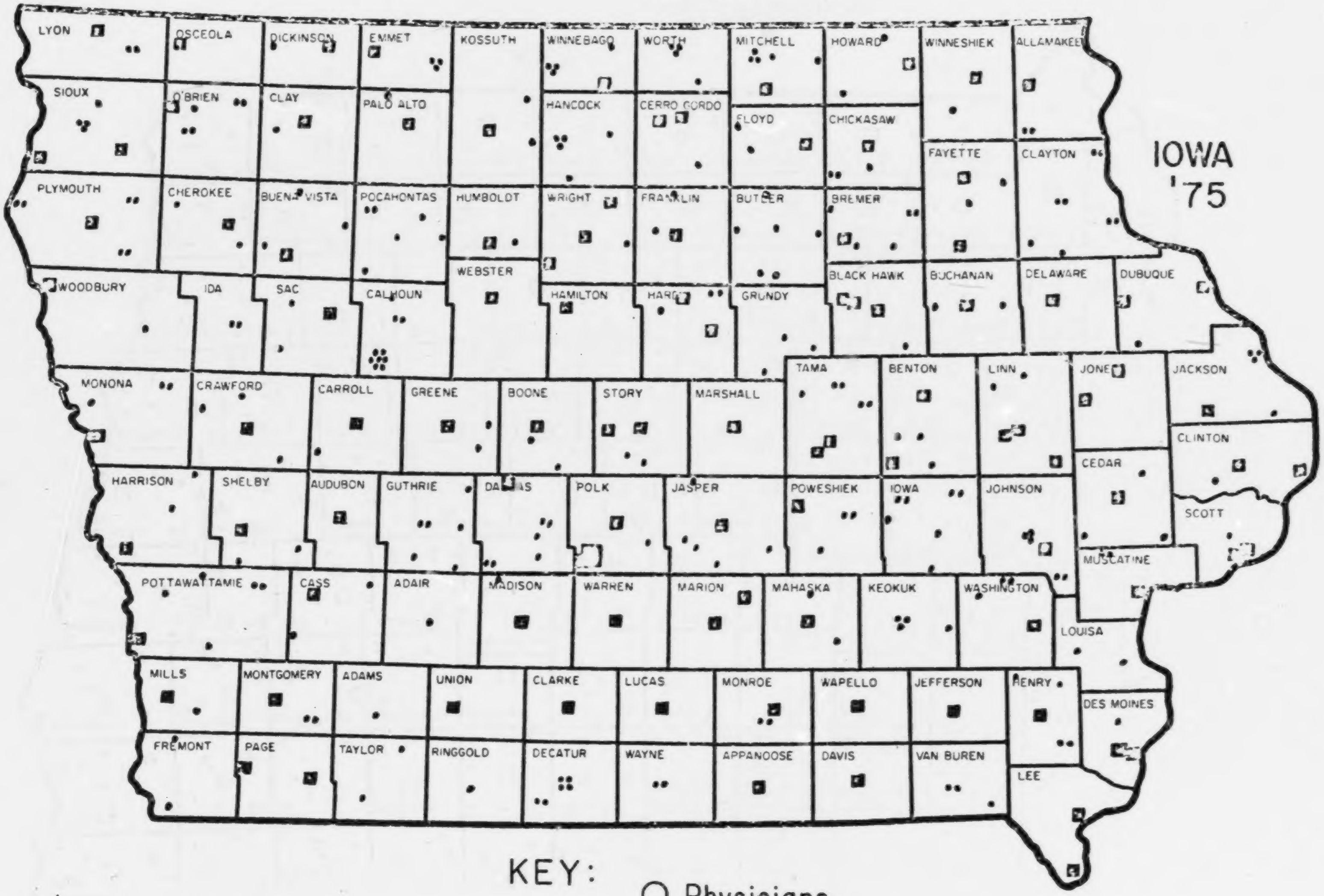
KEY:
○ Physicians
□ City of 2500 population or more

RURAL MEDICAL PHYSICIANS

MAP II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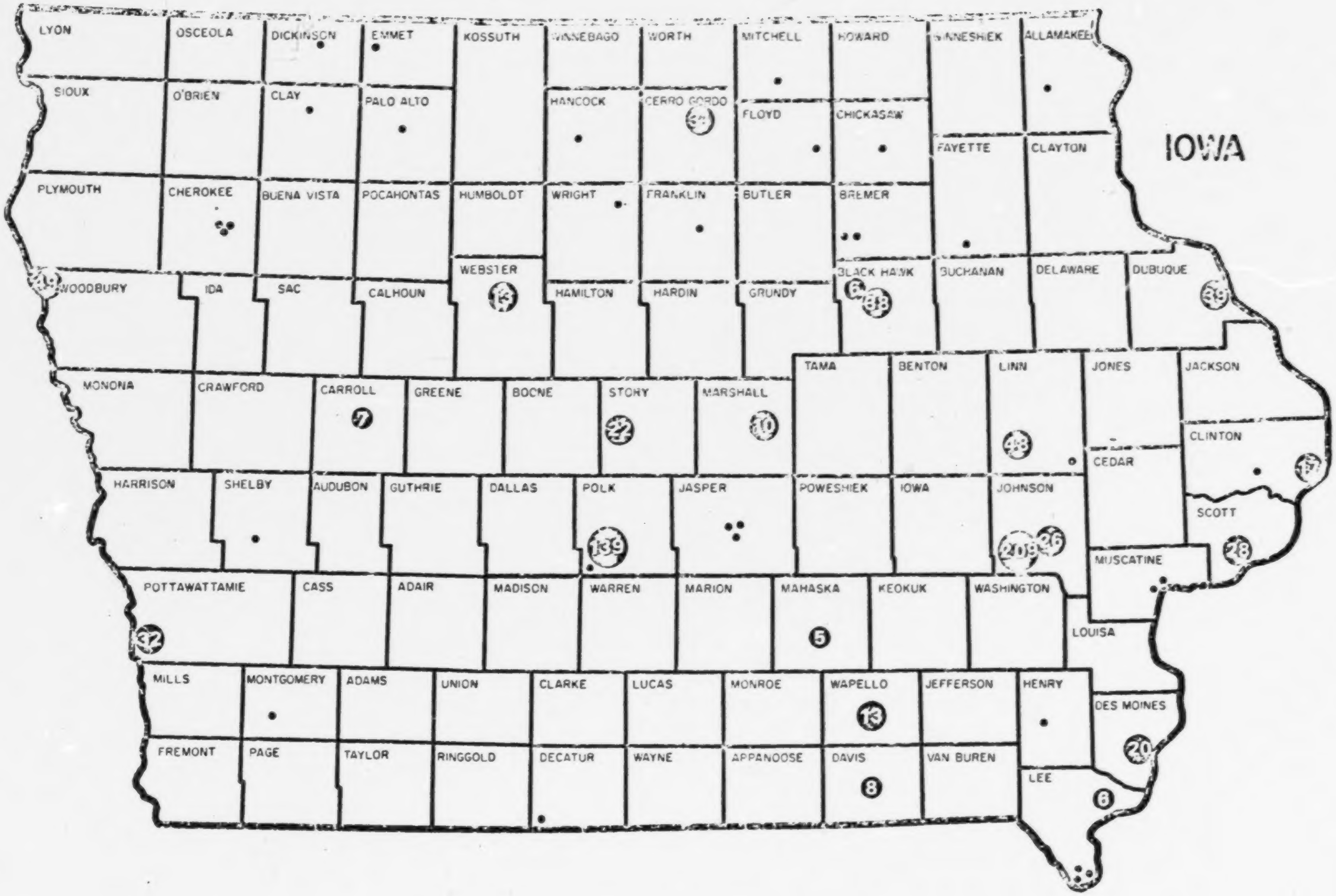
KEY:
- ○ Physicians
- ☐ City of 2500 population or more

MEDICAL and SURGICAL SPECIALISTS-'67

MAP III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ADAPTION OF LOCAL AND REGIONAL GOVERNMENT: THE EMERGING SPECIAL DISTRICT

By Donald E. Boles
Professor of Political Science
Iowa State University

"Most counties are...a rural farm throwback to the 19th Century courthouse style of government that earned them the reputation in textbooks as 'The Dark Continent of American Politics.' Clearly, this seems to be the case in Iowa."

"As the Iowa law so clearly demonstrates, the Special District's role in the eyes of the legislature is at best ambivalent, which tends to cause difficulties of both a substantive and a procedural nature."

"...the proliferation of Special Districts will continue in the future as a key technique in meeting the changing local problems in the public sector."

IT IS ONE of the more curious features of American civilization in the 20th Century that major changes in the demographic and socio-economic characteristics of the nation have not been followed by corresponding alterations in the basic forms of local governmental units. Thus the population shift from rural farms to the cities, which began to be clearly observed with the official closing of the frontier in 1890, has crested to such a wave that a scant 7% of the population is presently classified as rural-farm--even with the liberal application of this term as permitted by the definition of the Bureau of the Census. Despite this clear change in population concentration, the geographic size of the county, the basic unit of local government in most of the U.S., has not varied from that time in history when it was designed to permit a typical American--a farmer, in that case--to travel by horse and buggy from his farm to the county seat and back to his farmstead in one day.

Moreover, the other major demographic development nationally--the shift of population from the major city proper to suburbia and exurbia--has seen no new local governmental form clearly emerge to meet the multitude of problems confronting the vast area of rural non-farm dwellers in the country, except for an occasional super-government such as the Dade County Metro or the joint Nashville
stead, the increased governmental service needs of rural non-farm dwellers in exurban areas are attempted to be met through the proliferation of the mistily conceived units designated officially as Special Districts, the primary subject of this paper, and through hodge-podge grants of additional ad hoc powers to existing counties by state legislatures.

Counties Today

As a recent publication of the Ford Foundation points out, the fastest growing units of local government in terms of new functions have been the so-called "urban counties"--the 500 of the nation's 3,000 counties that lie within metropolitan areas.[1] In addition, these counties have become major new partners in the American federal system as more and more Federal and State programs are designed with counties or multi-county districts in mind as recipients of funds.

From one viewpoint, the geographic form and multi-jurisdictional coverage of many counties encompassing, as they do, municipalities and townships theoretically could give counties an exceptional potential for guiding and serving the new metropolitan growth--expanding outward from the central cities and older suburbs. Most counties are, however, rural-farm throwbacks to the 19th century courthouse-style of government that earned them the reputation in textbooks as "The Dark Continent of American Politics." Clearly, this seems to be the case in Iowa.

According to the Ford Foundation, only 45 U.S. counties have full-time elected executives comparable to mayors or governors. This does not refer, of course, to appointed county managers, but to elected executives of the type called for in traditional applied American political theory of separation of powers, and checks and balances. In addition, the Ford study found that the majority of American county governments lack adequate professional staff. Moreover, the county supervisors or commissioners who run most of our counties make their living primarily as farmers, clerks, insurance brokers or small businessmen, and their elected jobs are typically avocations.[2] Iowa has attempted to remedy this defect somewhat by statutory stipulations making the position of an elected supervisor in counties with populations over 40,000 a full-time job.[3] Cynics might argue that in actuality this distinction is more apparent than real in its effect upon some who hold such full-time posts in Iowa.

This is noted not to suggest that county supervisors are not representative of their constituencies, but to stress that they commonly lack the needed technical knowledge, as well as the time necessary to acquire such knowledge on their own to keep abreast with counties' changing problems brought about by the two major population trends noted earlier.

In recent years, one hopeful development in modernizing county officials' views of the county in the 1970's can be found in the growing vigor of National Association of Counties based in Washington D.C. Officials of counties in flux have recently been able to turn to this organization for badly needed technical advice and guidance. Yet, a mere 12 years ago the Ford Foundation found that NACO was insolvent and inactive, lacking full-time staff, and averaging but one call a week requesting assistance.[4] What brought about this amazing metamorphosis? Was it the reblooming of Jacksonian democracy's ideal--grass root enlightenment of local officials closest to the problem of county government? From the standpoint of the mythmakers, it is sad to relate it was not this, but almost its polar opposite. The major source during the 1960's of support for NACO's modernization was the Ford Foundation. Through Foundation funds, NACO grew into a relatively strong, productive service agency for the counties and serves as a "feedback" source for federal agencies and Congress concerning local needs and program effectiveness. Today the bulk of NACO's income ($571,286 in 1970) comes from membership fees and government contracts.[5]

It might be helpful to note some of the ways in which NACO provides regular assistance to county officials. Its weekly newspaper is a source of special technical assistance and provides up-to-date reporting of matters affecting local governments throughout the nation. A new county commissioner may receive advice, for example, on how to establish a department of public works for building new sewer and water facilities to serve his county's burgeoning population, or another may learn how to obtain lower interest rates on bonds. Information regarding methods of improving medical and coroner facilities as well as assistance to counties working toward home-rule authority are also examples of recent types of aids provided by NACO to various county officers throughout the nation.

With the enormous increase in federal programs involving local governmental units in the 1960's, an even more important job of NACO has been providing county officials with up-to-date information on the more than 500 different Federal aid programs and the techniques required to pick one's way through the various agencies typically responsible for administering them. Seemingly simple local projects, such as constructing a sewer line, involve four separate federal departments--Interior, Agriculture, Commerce, and Housing and Urban Development. Each have parts of such a program and each has different eligibility and planning requirements and application forms. To the newly elected county supervisor who conceives of his official duties as lounging around the courthouse, exchanging livestock market quotations with his farm friends, if he conceives of it at all, this side of local government administration may appear formidable at best. He can clearly use the assistance of some organization such as the state university extension service or NACO.

The foregoing is meant to suggest that, so far as counties as units of local government are concerned, there seems little likelihood that any significant desire exists among Americans to notably change their geographic boundaries or characteristics. Moreover, there is little reason to be sanguine about counties meeting their changing and increasingly complex problems through the consolidation of county functions across county lines in those areas where population has declined drastically unless, of course, there is no one left, which is effectively what occurred in South Dakota, for example, in the 1930's. Some states such as Iowa, do have permissive legislation occasionally utilized which authorizes joint-county mergers in areas of peripheral county functions such as county superintendents of schools, but such consolidation too frequently occurs only when the office or function has become an anachronism or a vestigial remnant of its former self.

Another statutory device designed to help particularly rural counties with sharply declining population has also proved in practice to be singularly unused by most of the affected counties. This is the authorization to permit the merging of county offices within a single county. For example, in Iowa where this has been permitted since 1959, the sole attempt in the state (Mahaska County) to accomplish the consolidation of some county offices was decisively defeated.

So it seems that Americans continue to be willing to muddle through with the county units essentially unchanged in structure so long as the counties continue to be bailed-out of their difficulties by the Federal and State governments. And it seems this will continue so long as various county officers' associations continue to be the potent forces they are perceived to be in the state legislatures.

Special Districts

If one analyzes the Census of Government of 1967 and compares it to those for past decades, the only striking change discernable regarding the alterations in the numbers and kinds of local units is found under the heading Special Governmental Districts. Apparently, the American reluctance to tamper with historical governmental forms, such as the counties, has resulted in the pragmatic solution of creating Special Districts to meet the challenges thrust upon local governments because of major socio-economic and demographic developments.

Yet, careful study suggests an abysmal lack of knowledge by policymakers and citizens alike about this most viable form of governmental unit. If the counties constitute the "Dark Continent of American Politics," as noted earlier, Special Districts are clearly the phantoms of American government. It is the major purpose of this paper to begin a tentative report on these complex and poorly formulated units as they appear to be developing in the U.S. generally, and in Iowa in particular. This is undertaken with more than the usual scholarly humility because of the most elemental problems confronting the researcher, such as the uncertainty even of the precise number of Special Districts existing in states such as Iowa since there are no uniform statutory reporting requirements of the sort that compel each functioning destrict to report to a central state office.[6] This, of course, adversely affects the data gathering functions of the U.S. Census Bureau and impairs a careful statistical analysis of the sort that may be utilized when seeking trends present in counties, for example.

Traditionally, the units of government in the United States have been divided into two classes according to the breadth and nature of their functions and operations. The first category is that of the general governmental unit. This form includes the national and state governments, municipal and county governments, and also the township in some states such as in Wisconsin, in parts of Illinois and in Minnesota. Such governments carry out a broad range of functions including the areas of police protection, public health, welfare, education, and highways.

The second category of governmental units exercise only limited and specific powers in narrowly prescribed areas. This is, of course, the category of the Special District which, as its name suggests, carries out specific functions frequently in the proprietary or business field.[7] Drainage destricts created solely to provide for the drainage of farm lands, soil conservation districts, fire districts and school districts are illustrations of the more commonly recognized districts of this nature.[8]

The U.S. Bureau of the Census has noted that Special Districts make up the most varied units of government in the nation. They are found in every state and in the District of Columbia, and are concerned with a staggering variety of functions. There is, however, no uniformity in number or type of these governmental units among the 50 states.[9]

Definition

Unfortunately there is no completely satisfactory definition of the term "Special District." Indeed, the absence of a good working definition probably says more about the nature of the complexity of Special Districts than anything else.[10] Moreover, Special Districts seem to exhibit different characteristics to different authorities. There is, however, some general agreement on some of the elements commonly present constituting something of the essence of Special Districts.

One of the more comprehensive definitions has been offered by Professor John C. Bollen, who suggests that Special Districts are "organized entities. possessing a structural form, an official name, perpetual succession, and the rights to sue and be sued, to make contracts and to obtain and dispose of property. They have officers that are popularly elected or are chosen by other public officials. They have a high degree of public accountability. Moreover, they have considerable physical and administrative independence from other governments." The financial and administrative criteria, Bollen feels, distinguish Special Districts and other governments from all dependent or subordinate districts and for most authorities which, lacking one or both of these standards, are not considered governmental units.[10A]

There are, however, other writers in this field and various state supreme courts who do not accept all of Bollen's criteria, particularly those suggesting that Special Districts have the quality of a public municipal corporation with the right to sue and be sued. The high courts of various states have held instead that a variety of generally recognized types of Special Districts are only quasi-municipal corporations with definitely restricted powers and liablitiies. Fire districts, for example were held to be of this character by the Massachusetts Supreme Court[11] and road districts have been classified as quasi-public corporations by a variety of state high courts in states such as Louisiana.[12]

Indeed, the Iowa Supreme Court, in what appears to be its first encounter with the concept of Special Districts in 1859, held that even though the Iowa statutes provided specifically that each road district was to be responsible for all damages sustained by a person in consequence of defects in the roads or bridges in the district, they could not in fact be treated as a public corporation and could not, in this case, be sued for the value of a horse injured in falling through a bridge.

The Iowa Court went even further and held that a road district could not be a party to an action in a court as a corporation, quasi or otherwise, since no statute made them a body corporate capable of suing or being sued.[13] In 1971, however, the Iowa Court modified that extreme approach to Special Districts, and held that drainage districts, at least, are political subdivision of a county and in Iowa, and most other states, the county is held to be a quasi-public corporation[14] and not subject to the legal liabilities or granted the general powers held by a public municipal corporation.[15] Moreover, the Iowa Court has held consistently in a number of cases that drainage districts are not a legal utility or a public corporation and thus cannot be sued nor incur corporate liability and have only characteristics of their own, not the powers granted to cities and towns or possessed by private individuals.[16]

Later, Iowa law reflects a fine example, however, of how confusion is compounded over the legal status of Special Districts and their governmental and corporate position. The statute concerning the creation of soil conservation districts states flatly that, "The district shall be a body corporate..."[17] Moreover, in some of the most recently enacted legislation--that creating the six major watershed conservancy districts in 1971--the Iowa Statutes provide, "In the furtherance of the objectives set forth in Section 467D.1 the entire State of Iowa shall be divided into six Conservancy Districts, and the same shall hereby be established as political subdivisions of the state..."[18] It is, of course, too early to determine what the words of the statute will be interpreted to mean concerning actual governmental authority and legal responsibility of such Special Districts.

In addition to being defined as quasi-governmental units, Special Districts have been divided by the President's Commission on Intergovernmental Relations[19] into single-function districts and multifunction districts. The single-function district by Commission standards, is one with debts under $100,000 or with less than 5 full-time employees, and deals with one service. Examples of the single-function district are fire districts, water supply districts, housing and urban renewal districts, sewage districts, park and recreation districts and utility districts.

Multifunction districts, as the Intergovernmental Relations Commission sees them, are those responsible for several governmental functions such as water supply and sewage disposal. Their numbers had declined from 510 in 1957 to 310 in 1962 and the Commission felt this decrease would continue because of changes in classifications in this area by the Bureau of Census. Such districts must have more than 5 employees and more than $100,000 indebtedness.

The difficulty of finding a consensus concerning a definition of Special Districts necessitates, despite its shortcomings, following the definition developed by the Bureau of Census if one hopes to work with some generally accepted and uniform data. The Bureau of Census counts Special Districts as governmental units by applying the standards which it uses for all governmental units. These include:

1. Existence as an organized entity

2. Governmental character

3. Substantial autonomy

To be accepted officially as a government by the Census Bureau an entity must possess all three of these attributes.

The question that arises then is what are some of the characteristics the Census Bureau will normally accept as evidence of the first criteria--does a governmental unit exist as an organized entity? The presence of some form of governmental structure and organization and the possession of some corporate power such as perpetual succession are of key importance to fulfill the first requirement. Also, the right to sue and be sued, the right to have an official name, the right to make contracts as well as to acquire and dispose of property are important factors, although all are not essential in an absolute or unlimited degree. To fulfill its first requirement for consideration as a governmental unit, the Census Bureau will also accept the designation of a governmental entity by statute classifying it as a "municipal corporation", "public corporation", the designation "body corporate and political", or similar titles, indicating that the state legislature conceived of such units as organized entities. On the other hand, some entities not specifically classified by statutes to be public corporations may, and in some cases do, have sufficient powers in fact and law to be recognized by the Census Bureau as formal governmental units.[20] For example, counties are frequently referred to by most courts as quasi-corporations, yet are, of course, listed in the Census of Governments as formal governmental units.

As far as the Census Bureau is concerned, the mere right by law to exist is not sufficient to automatically include an entity as governmental unit. Where, for example, a formal governmental unit has ceased to operate or receives no revenue or conducts no activities or has no current office holders--as in the case of ghost towns or ghost townships--it will not be counted an existing unit of government even though according to state statutory provisions it has not legally become defunct.[21] This fact compounds the problem of obtaining precise data on Special Districts particularly since most states, including Iowa, have not even developed a uniform definition or central records repository to determine how many and what kind of Special Districts may exist under the State's criteria. Indeed, in Iowa at no time in any of the statutes or in the legal indexes are Special Districts even referred to by that formal title, nor is the statute law pertaining to them either codified or indexed in a uniform manner.

The second standard followed by the Census Bureau to determine whether or not a governmental unit exists is whether a particular entity has governmental character. This characteristic is generally indicated when officers of the governmental body are popularly elected or are appointed by officials of another established government unit, such as a county board of supervisors.[22] The Census Bureau claims that it insists upon a high degree of responsibility to the public, demonstrated by requirements of public reporting or the accessibility of records to public inspection, as critical evidence of a governmental character, but the hodge-podge reporting techniques permitted Special Districts and some other local governmental units in Iowa, and other states, casts doubts on the intensity of the Bureau's committment to this evidenciary criteria. Governmental character is also attributed to any entities having power to levy property taxes or to issue interest bearing notes which are exempt from federal taxation or to those units having responsibilities for performing functions commonly regarded by the Census Bureau as being governmental in nature.

If this criteria is not sufficiently obscure, the Bureau of the Census insists that the lack of these attributes or a paucity of evidence concerning them does not preclude a class or unit from being recognized officially as governmental in character. If they meet the indicated requirement as to offices with public accountablitiy, they will normally be considered governmental in the eyes of the Census Bureau. Thus some Special Districts, although they have no taxing power and have power only to provide services that are widely rendered privately, are formally classed and counted as local governments by Bureau of the Census because of statutory provisions as to their administration or public accountability.[23]

How loosely this criteria is applied in reality may be seen by the fact that of the 13 different classes of Special Districts noted in the census report for Iowa in 1957 and 1967, only the two conservation districts (one of which is not listed in the Census) have specific statutory requirements spelling out a need for public reporting. Conservancy districts are required to submit budget reports by August 1 of each even numbered year[24] and to prepare a long range plan to be submitted to the state Soil Conservation Committee by July 1, 1973.[25] In addition, the Soil Conservation Districts are required to report to the Soil Conservation Committee which, in turn, is to report to the Governor each January 1 before the beginning of the legislative session[26] and to present an annual budget report to the State Comptroller each September 1.[27]

Finally, we come to the third factor used by the Bureau of the Census to determine if an entity can qualify as a governmental unit--that is, substantial autonomy. This requirement is normally met where, except for statutory limitations and general supervision of the local government by the state government, the entity has considerable physical and administrative independence. Physical independence is generally derived from the power of the local entity to determine its budget without review or detailed modification by other government officials or governments. It also includes substantial local authority to determine taxes levied for its support and the power to fix and collect charges for services or to incur debts without review by another local government.[28] The Census Bureau accordingly concludes that a public agency is classified as an independent unit of government if it has independent physical powers, and in addition has: (1) a popularly elected governmental body; (2) a governing body representing two or more state or local governments; or (3) in the event that its governing body is appointed, if it performs functions that are essentially different from those of its creating government or is not completely subject to total control by that governmental unit.[29]

When considering Special Districts as a governmental unit, it is important to recognize that certain other factors can be important in the Census Bureau's classification. The Bureau recognizes, for example, that the infinite variety of statutory provisions regarding local governmental enitities, and particularly the shading of autonomy which they exhibit, leaves the classification of some types of entities, such as some Special Districts, subject to considerable judgment. In such cases, the Census Bureau first takes into account local attitudes as to whether the type of unit involved is independent or not. In this way, for example, the Bureau dropped the Iowa townships as governmental units in 1950 on the basis of the judgment of William Anderson, Professor of Political Science at the University of Minnesota. A second consideration of the Bureau is the effect of its decision upon the collection and presentation of statistics of governmental finance and employment.[30] This is especially important in a study of Special Districts because of the great questions of who is given the authority of reporting their existence, their functions, and their accomplishments.

General Features

Special Districts may be provided for through state constitutional provisions or through statutory authorization--by far the most common method for creating the bulk of these districts in the United States. The proliferation of the number and kinds of districts is partially accounted for by the relative ease in which state statutes permit their creation. In most states, the legislature, through laws dealing with the specific types of districts, spell out the guidelines as to how the people may initate the action and generally outline the tax and fiscal procedure which enable the district to become a going concern.

Typically, a first step is the circulation of a petition which must be signed by the required number of legal residents or property owners in the affected area. Petitions in most states must identify the type of district proposed and indicate clearly the geographic area to be included. With the necessary signatures obtained, the next step involves submission of the petition to the appropriate local governing body, which is commonly the county Board of Supervisors.

Action of the county board may be pro forma and consist merely of accepting the legality of the document. On the other hand, the supervisors may concern themselves in depth with the merits of the District and on this basis deny or grant the petition. In most states, following favorable action by the county board, a third stage of the process then calls for submitting the proposal to the electorate for their approval. Normally, this requires a simple majority of the votes cast, although occasionally the statutes require a 3/5 or even a 2/3 vote to create certain types of Special Districts. The final step is taken when the board of supervisors issues an official declaration bringing the new district into being.

In Iowa, all Special Districts except for conservancy districts and state park and institutional road districts have their creative process begun by petition of the electors in the proposed district. The latter two types of districts are created by state statute. Sanitation and library districts provide for popular election on petition and for approval by a simple majority vote.[31] Soil conservation districts in Iowa differ most from the norms just noted since the statutes provide for the petition, election and certification to be processed by the State Soil Conservation Committee, and following this, the district may be created at the discretion of the State Commission.[32]

The internal organization pattern of Special Districts differs widely from state to state. However, some common characteristics are observable. First, they will have a governing board composed normally of 3, 5, or occasionally 7 members. These members are typically referred to as trustees, commissioners, directors or supervisors, and are elected by the voters of the District for terms ranging from 4 to 6 years. As previously noted, board members in a minority of Districts are appointed by county boards, state committees or in some cases hold ex officio office.[33]

In Iowa, popular elections of one type or another are utilized for the selection of board members of water districts,[34] fire district,[35] street light district,[36] sanitation districts,[37] and soil conservation districts[38] with an assist from the State Soil Conservation Committee.[39] On the other hand, in the case of levee and drainage districts[40] and of secondary road and assessment districts,[41] the county board of supervisors acts ex officio as the trustees. Still another technique is followed for library districts, where the trustees are appointed by the county board.[42] The State Soil Conservation Committee acts separately as the board on each of the conservancy districts.[43] The directors of rural water districts are elected by the mass meeting of district members rather than by the general election form. State park and

Institutional road district trustees are the trustees or directors of the park or institution.[44]

Another characteristic common to most Special District governing boards concerns some control over the tax rates to be imposed upon the residents of the district for the particular service of the district. In Iowa, methods of funding the district operations are as diverse as the variety of Special Districts. For example, sanitary districts receive funds through a tax levied by the trustees, service charges, issuing of bonds and special assessments.[45] County library districts obtain funds from gifts, donations and taxation authorized by the county board or city council.[46] Benefited water districts rely upon an engineer to assess benefits; funds are also derived from assessments levied with the regular tax and additional assessments on private improvement, among other methods.[47] Both benefited fire districts and benefited street lighting districts follow funding procedures similar to water districts.[48]

Secondary road assessment districts obtain funds from county road funds, special assessments and road certificates issued in anticipation of funding.[49] Conservancy districts derive funds primarily through biennial budget requests to the State Soil Conservation Committee and from Federal funds.[50] Two methods of gathering revenue may be utilized by soil conservation districts. The first is a special annual tax approved by a majority of the landowners in a district and levied by the board of supervisors; the alternate method is used when no consensus emerges and involves appraising, hearing and determination by the trustees.[51]

Drainage districts have perhaps the most detailed and complex funding procedure provided by statute. Essentially it involves an engineer's assessment of damages and formal examination by the board, a hearing on assessment of damages, cross appraisal by appraising commissioners, extensive payment options, issuance of warrants and bonds, and extensive provision relating to refunding and indebtedness.[52]

While rural water districts[53] are prohibited from taxing they do have two unique revenue sources. The first is through a use fee or "benefit unit"[54] and the other is through fixing a reasonable rate[55] for the sale of water.[56]

These examples should demonstrate graphically that nothing remotely resembling uniform funding procedures exist in the Iowa approach to financing the operations of Special Districts. While it would probably be impossible and unwise to attempt to establish totally uniform funding methods, the absolute diversity that exists does suggest the absence of any general theory regarding the reason for being of Special Districts within the over-all framework of state and local government here and elsewhere.

Another feature which Special Districts appear to have in common throughout the United States is the authority granted to the governing board to hire specialists or technically trained staff. Their duty is, of course, to expedite the function of the district. School districts, which have been generally excluded from this study because of the mountains of research and special laws dealing with them, have as one of their primary functions the hiring of professionally trained staff and administrators. In Iowa, interestlingly enough, rural water districts,[57] sanitary districts,[58] library districts[59] and conservancy districts[60] are the only non-school type Special Districts to have specific statutory authorization for the hiring of professional staff. The remaining Iowa districts have broad general grants which would appear to accomplish the same purpose.[61]

A final feature that Special Districts have in common is the high degree of informality permitted by statute concerning their organizational structure and many of their procedures. Typically, they have few employees, enjoy almost unrestricted freedom in the selection and the dismissal of these employees and, as mentioned before, maintain few detailed records. Moreover, while these districts taken individually perform only one or at best two services, when considered as a whole Special Districts within a state cover a large and varied range of functions. Indeed they can, and in some cases do, provide more services than do such well-recognized governmental units as townships, small towns, and even counties in certain instances.

Some notion of the scope of authority beyond the immediate function for which they were established may be seen by a survey of additional powers granted to various Special Districts in Iowa. All except for park and institutional road districts have the power to buy, sell, maintain, and house equipment.[62] Benefited water districts have the general power to purchase, obtain and condemn property.[63] Even library districts have the power to eminent domain.[64] Sanitary districts are given the power to acquire land and to sue or be sued; fire and street lighting districts are authorized by statute to dissolve themselves;[65] drainage districts are granted a substantial number of specific powers relating to drainage and flood protection but have additional powers to sue, abate nuisances, and to purchase land.[66] Soil Conservation Districts may compel the cooperation of landowners in erosion control projects. They have also the power to subdistrict, to condemn, to inspect, to seek judicial enforcement of their orders, to enter land without permission and to enter into compacts with federal and state agencies.[67]

Iowa's new conservancy districts have especially broad powers including the authority to force landowners to install conserving practices if they are found negligent of good land use. Historically, soil conservation has tended to be a voluntary matter left to the discretion of the property owner.[68] The new law makes it possible for uncooperative landowners to be found legally negligent and subject to fines or imprisonment if they fail to comply with court orders to install soil-conserving practices. With the cooperation of soil conservation districts, soil loss limit regulations are developed, applied to the conservancy district and can be enforced. This mandate is mitigated by the law which stipulates that 75% of the cost must be provided from tax funds to landowners in cases where permanent conservation measures such as terracing, errosion control structures and long-range seeding are required.[69]

Direction of Change

The attempt to devise general categories into which all Special Districts in the nation can be fit has produced varied results. It is important to obtain some working consensus on this point if patterns of change are to be studied. Bollen [70] establishes 11 classes of districts including: health and sanitation; protection to person and property; road transportation facilities and aids; non-road transportation facilities and aids; utilities; housing; natural resources and agricultural assistance; education; parks and recreation; cemeteries; and miscellaneous operations.

On the other hand, as Table I reveals, the Bureau of Census, while following a similar approach, breaks them into 13 functional units. Moreover, this designation and certain other Census Bureau designations do not correlate perfectly with Iowa Special Districts as covered in the state's statute law, in part because the Iowa Conservancy District did not exist at the time of the completion of the last full Census of Governments. For the purposes of this study, it is the Census Bureau classifications that are followed, in order to have some basis of comparison over the decades. Where statutory provisions require some alteration for Iowa data this has been included in the material for Iowa only. Table II is derived from a comparison of the 1957 and 1967 (which is the most recent) Census of Governments. It has some interesting things to suggest about the Special Districts' changing role in the evolution of American local government. Among the more obvious percentage increases in districts of a specific sort are in flood control, 216.7; parks, 93.9; housing, 61.5; urban water districts, 171,9; and hospital districts, 55.6 percent. Keeping in mind that school districts are excluded from these tables and this study, the only class of Special Districts that decline in number over the ten-year period are irrigation water districts whose numbers were reduced 60% nationally. Some of the districts that increased substantially in number are designed primarily to meet the problems of urban dwellers, such as urban water districts. Others with marked increases in numbers, however, provide substantial services for rural farm and non-farm persons. This again demonstrates the remarkable versatility of Special Districts to meet highly diversified problems of people in varied locales. Indeed, if one looks at the five states that account for 38% of the total number of Special Districts nationally--Illinois, California, Pennsylvania, Kansas and Texas--(see Table III) one sees they have rural as well as urban residents for whom these districts meet basic needs.

TABLE I[71]

Functional Classification of Special Districts

	Number	Percentage of National Total
Natural Resources		
Soil conservation	2,461	13.4
Drainage	2,240	12.2
Irrigation, water conservation	781	4.3
Flood control	500	2.7
Other and composite natural resources purposes	176	1.0
Fire Protection	3,229	17.6
Urban Water Supply	1,502	8.2
Cemeteries	1,283	7.0
Housing	1,099	6.0
Sewerage	937	5.0
School Buildings	915	5.0
Highways	773	4.2
Parks and Recreation	488	2.7
Hospitals	418	2.3
Libraries	349	1.9
Other Single-function Districts	862	4.7
Multiple-function Districts	310	1.7
Total	18,323	99.9

TABLE II[72]

Changes in the Number of Functional Special Districts Units in the United States 1957-1967

	Number		10 Year Change	
Type of District	1967	1957	Number	Percent*
Cemeteries	1397	1107	290	26.2
Drainage	2193	2132	61	2.9
Fire Protection	3665	2624	1041	39.7
Flood Control	662	209	453	216.7
Highways	774	782	-8	1.0
Hospitals	537	345	192	55.6
Housing	1565	969	596	61.5
Irrigation Water Conservation	904	2265	-1361	-60.0
Libraries	410	322	88	27.3
Multi-purpose	453	217	236	108.8
Parks	613	316	297	93.9
Soil Conservation	2571	2265	306	13.5
Urban Water	2140	787	1353	171.9
Other Single Function	982	43	939	2183.7
	18866	14381	4485	

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*The percentage change between 1957 and 1967 is the ratio of the absolute number of new districts in 1967 to the absolute number of Special Districts in 1957. For example:Cemetery districts' percent of increase 1957-1967 290/1107 = .26x2 or 26.2%

According to the 1967 Census figures, Iowa ranked 21st from the top state in respect to the number of Special Districts. The numbers have increased from 199 in the 1957 Census lists to 280 in 1967, moving the state up one spot in the national rankings. The 81 additional districts in 1967 constituted a 40.7 percent increase during the 10-year period. This rate of increase for Iowa was above the approximately 32 percent average national increase.

Looking specifically at the evolution in Iowa of Special Districts, found in Table IV, we see that apart from Conservancy Districts, created after these figures were published, the major increases percentage-wise occurred in library, sewerage, and highway districts. In terms of total numbers, however, these increases are small for the 10-year period. Of the districts shown in Table IV, 65 are located by the Census Bureau in Standard Metropolitan Statistical Areas, while 215 are outside of SMSAs and thus involve small town or rural areas of Iowa. The SMSA designation is not shown on Table IV.

In 1967, the only types of Special Districts that[75] were predominately located in Standard Metropolitan Statistical Areas were water districts, where 34 were located within and 7 outside the SMSAs, and library districts, where 3 out of the 4 were inside SMSAs. On the other hand, all flood control districts and highway districts were outside the SMSA boundaries. Moreover, the overwhelming bulk of soil conservation districts, (91 out of 99) were outside SMSAs, as were the bulk of drainage districts (76 out of 83). Only fire districts show a slightly balanced ratio in this regard with 11 of them inside SMSAs and 27 outside. This suggests that Special Districts are predominently utilized by the rural and small town citizenry in Iowa.

Conclusions

In concluding a preliminary study such as this, one may ponder the reasons for the growth and expanding vigor of Special Districts in the United States when other local governmental units seem to be treading water or in danger of sinking. No one can deny some of the significant advantages which further attest their political acceptability. The relative ease with which they may be formed enables them to meet the problems of an area or region quickly without overcoming the institutional inertia that is so often present in trying to re-gear existing governmental units. Tax and debt limitations applicable to existing cities and counties are generally not applicable to Special Districts, thus making them attractive as a means for circumventing such limitations. Territorial boundaries of existing governmental units, which are guarded so zealously, may not, and frequently do not, coincide with the service needs a Special District can fulfill. A most important pragmatic advantage is the fact that the creation of a new district superimposed upon the existing governmental arrangements seldom threatens the status or tenure of established political leadership in the community,

TABLE III[73]

COMPARISON OF TOTAL NUMBER OF SPECIAL DISTRICTS BY STATE

Name of State	1957	1967
Alaska	2	0
Hawaii	17	15
Virginia	40	48
Wisconsin	78	62
Delaware	64	65
Rhode Island	51	67
Vermont	72	72
Arizona	50	76
New Hampshire	80	89
Nevada	58	95
New Mexico	112	97
South Dakota	69	106
Michigan	102	110
West Virginia	32	120
Maine	107	127
Minnesota	92	148
South Carolina	112	148
Utah	118	163
Wyoming	133	185
Maryland	155	187
Montana	174	209
Oklahoma	105	214
North Carolina	111	215
Connecticut	187	221
Ohio	160	228
Massachusetts	205	247
Alabama	119	251
Mississippi	248	272
Kentucky	157	273
Iowa	199	280
Florida	227	310
New Jersey	140	311
Louisiana	217	334
Georgia	255	338
Arkansas	254	352
Tennessee	195	386
North Dakota	168	431
Idaho	431	513
Indiana	313	619
Missouri	827	734
Colorado	421	748
Oregon	550	800
Washington	745	937
Nebraska	610	952
New York	924	965
Texas	645	1001
Kansas	808	1037
Pennsylvania	34	1624
California	1650	2168
Illinois	1800	2313

TABLE IV[74]

Changes in the Number of Functional Special District Units in the State of Iowa 1957-1967

Type of District	Number 1967	Number 1957	10 Year Change Number	10 Year Change Percent*
Single function, total	280	197	83	42.1
Fire protection	38	0	38	**
Highways	2	1	1	100.0
Sewerage	6	3	3	100.0
Libraries	4	1	3	300.0
Natural resources, total	189	169	20	11.8
Drainage	83	60	23	38.3
Soil conservation	99	100	-1	-1.0
Flood control	7	6	1	16.6
Irrigation, water conservation	0	0	0	0.0
Multi-purpose	0	3	-3	-100.0
Water supply (utility)	41	23	18	78.2
Other	0	0	0	0.0
Multi-function, total	0	2	-2	-100.0
Total without School Districts	280	199	81	40.7
School Districts	478	3665	-3187	-86.9
Total with School Districts	758	3864	-3106	-80.3

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*The percentage change between 1957 and 1967 is the ratio of the absolute number of new districts in 1967 to the absolute number of Special Districts in 1957.

**incalcuable

a threat present in proposals for consolidation or annexation. Moreover, special interest groups such as land developers have found in the Special District a useful vehicle for supporting operations such as financing subdivision improvements or acquiring other economic benefits. Special Districts have also been supported as a means of removing public service functions from the realm of partisan politics and placing them in the hands of professional non-partisan managers.

As everything else in life, Special Districts are not without shortcomings. Because of statutory restrictions limiting their flexibility, they are frequently not as effective as is necessary to meet the true problems confronting them. Special Districts may not be responsive to broad public needs since their governing board is commonly chosen by only a select segment of the population or may be appointed by other officials. Moreover, these activities of Special Districts may overlap the jurisdiction of existing units of local governments thus precipitating bitter boundary disputes. Also, as the Iowa law so clearly demonstrates, the Special Districts' role in the eyes of the state legislature is at best ambivalent, which tends to cause difficulties of both a substantive and a procedural nature.

On balance, there seems every reason to believe that the proliferation of Special Districts will continue in the future as a key technique in meeting the changing local problems in the public sector. For all appearance, they should be of growing importance to states in transition such as Iowa, and require more and comprehensive study as our most viable governmental units.

FOOTNOTES

1. The Near Side of Federalism: Improving State and Local Government, Ford Foundation, Jan. 1972, pp. 27-30.

2. op. cit. p. 26.

3. Iowa Code, 1971, § 331.22.

4. Ford Foundation, Jan. 1972, p. 27.

5. op. cit.

6. Only Conservancy and Soil Conservation Districts are subjected to specific public reporting constraints. Iowa Code, 1971, § 467D.16 and Iowa Code, 1971, §§ 467A.11 and 12.

7. Iowa districts function under broad grants of power to "get the job done". However, these "jobs" are strictly limited in scope. Examples: Fire Districts, Iowa Code, 1971, § 357B.11; Street Lighting Districts, Iowa Code, 1971, § 357C.9; Water Districts, Iowa Code, 1971, § 357.27; Rural Water Districts, Iowa Code, 1971, § 357A.11; Sanitary Districts, Iowa Code, 1971, § 358.11; Library Districts, Iowa Code, 1971, § 358B.8; Highway Districts, Iowa Code, 1971, § 311.6; Drainage Districts, Iowa Code, 1971, § 455.1; and Conservancy Districts, Iowa Code, 1971, § 467D.6; Soil Conservation Districts, Iowa Code, 1971, § 467A.7.

8. See: Wisconsin Blue Book, Special Districts in Wisconsin, 1952, p. 163.

9. See for example: U.S. Department of Commerce, Bureau of the Census, Governments in the U.S., Vol. I., p. 6, 1957 Census of Governments. Bureau of Census defines thirteen classes of districts in an attempt to establish uniform categories for all states. Iowa statute deliniates eleven specific districts (not quasi-districts).
There are: Benefited Water Districts, Iowa Code, 1971, Ch. 357; Benefited Fire Districts, Iowa Code, 1971, Ch. 357B; Benefited Street Lighting Districts, Iowa Code, 1971, Ch. 357C; Sanitary Districts, Iowa Code, 1971, Ch. 358; Library Districts, Iowa Code, 1971, Ch. 358B; Secondary Road Assessment Districts, Iowa Code, 1971, Ch. 311; Park and Institutional Roads Districts, Iowa Code, 1971, Ch. 308; Rural Water Districts, Iowa Code, 1971, Ch. 375A; Levee and Drainage Districts, Iowa Code, 1971, Ch. 455; Soil Conservation Districts, Iowa Code, 1971, Ch. 467A; and Conservancy Districts, Iowa Code, 1971, Ch. 467D.

10A. John C. Bollen's Special District Government in the United States, Univ. of California Press, Berkeley, 1957, p. 1.

10. See: Makielski, S. J. and Temple, D. G., Special Districts Government in Virginia, Institue of Bovernment, Univ. of Virginia, 1967, p. 5.

11. Williams College v. Williamstown, 219 Mass. 46, 106 N.E. 687, 688.

12. Farmer v. Myles, 106 La. 333, 30 So. 858; See also: California, San Bernadino Ct. v. So. Pac. Ry. Co., 137 Cal. 659, 70 P. 782; Nebraska, Madden v. Lancaster County, 65 F. 191 (1894); Iowa, White v. Road Dist. No. 1, 9 Iowa 202 (1859).

13. 9 Iowa 202 (1859).

14. A standard definition of quasi corporation is found in 14 C. J. "Corpration" § I, D, 8, Corpus Juris on quasi corporation - "Besides corporations proper, there are some associations and government or political institutions which are not corporations in the full sense, but which are invested by law with some of the attributes of a corporation, as the capacity to sue or be sued as a corporate body, to have continued existence unaffected by death or disability of members, or to make particular contracts or to hold particular property or rights as a corporate body. These are called quasi corporations or corporations sub modo. In this class, for example, the courts have generally included counties, towns or townships, parishes, school towns or districts, and the like; drainage, levee or reclamation districts, certain state, county, or municipal boards or officers and a society not expressly incorporated, but which are invested with the proprietorship oflands and which have been recognized as a body in the courts and by the legislature..."

15. For a discussion of quasi corporations as it relates to Special Districts, see: Weimer v. Louisville Water Co., 130 F. 251 (1903); Road Dist. No. 7 of Poinsett County Arkansas v. Guardian Savings and Trust Co., 298 F. 272 (1924); and Taylor Coal Co. v. Board of Drainage Comm. of Ohio County, 189 Ky 793, 225. S. W. 368.

16. See for example: Houghton v. Bonnekson, 212 Iowa 902 (1931); Mitchell County v. Odden, 219 Iowa 790 (1935); and Miller v. Monona County, 229 Iowa 165, 294 N.W. 308, (1940).

17. Iowa Code, 1971, § 467A.5 and 6.

18. Iowa Code, 1971, § 467D.3.

19. Advisory Commission on Intergovernmental Relations, The Problem of Special Districts in American Government, Washington, D.C., Government Printing Office, (1964).

20. See for example, Bureau of the Census, 1967 Census of Governments, Vol. I, p. 9. In Iowa, the units that are entitled "districts" by statute display the following powers as governmental units:

Benefited Fire Districts--purchase and rent equipment or property, and enter into contracts (Iowa Code, 1971, § 357B.11), and power to dissolve upon petition (Iowa Code, 1971, § 357B.14); Benefited Street Lighting Districts--power to purchase and maintain facilities (Iowa Code, 1971, § 357C.9) and dissolution upon petition (Iowa Code, 1971, § 357C.11); Benefited Water Districts--power to buy and sell water, purchase and maintain a system, enter into contracts, and develop a source of supply (Iowa Code, 1971, § 357.27); Sanitary Districts--power to sue, hold real and personal property and adopt a corporate seal (Iowa Code, 1971, § 358.11), also power to employ people and promulgate rules and regulations (Iowa Code, 1971, § 358.12); County Library Districts--power to purchase facilities, employ help, fix charges, and accept gifts and donations (Iowa Code, 1971, § 358B.8); Soil Conservations Districts--power to buy and sell real property and to sue and be sued (Iowa Code, 1971, § 467A.7); Conservancy Districts--a single broad grant of power to preserve soil and water resources (Iowa Code, 1971, § 467D.6); Rural Water Districts--power to employ help, set rates, and hold property (Iowa Code, 1971, § 357A.11); Highway Districts--power to contract for improvements (Iowa Code, 1971, § 311.6); and Levee and Drainage Districts--power to sue (Iowa Code, 1971, § 455.100), to purchase and dispose of land (Iowa Code, 1971, § 455.170), and to join the National Drainage Association (Iowa Code, 1971, § 455.187).

21. Ibid. p. 8.

22. Officers are elected in the following: Benefited Water Districts (Iowa Code, 1971, § 357.12); Benefited Fire Districts (Iowa Code, 1971, § 357B.10), Benefited Street Lighting Districts (Iowa Code, 1971, § 357C.8); Sanitary Districts (Iowa Code, 1971, § 358.9); Soil Conservation Districts (Iowa Code, 1971, § 467A.5 and 6); and Rural Water Districts (Iowa Code, 1971, § 357A.7). All the others are appointed by officials of other governmental units, as referenced in the paper.

23. 1967 Census of Governments, p.8. Rural Water Districts in Iowa are specifically prohibited from taxing (Iowa Code, 1971, § 357A.15).

24. Iowa Code, 1971, § 467D.12.

25. Iowa Code, 1971, § 467D.17.

26. Iowa Code, 1971, § 467A.11.

27. Iowa Code, 1971, § 467A.12.

28. Census of the Government, 1967, p. 8.

29. op. cit., p. 10.

30. op. cit., p. 11.

31. Iowa Code, 1971, § 358.7 and § 358B.2.

32. Iowa Code, 1971, § 467A.14.

33. See for example: Sato and Van Alystine, State and Local Government Law, Boston, Little, Brown and Co., 1970, p. 10.

34. Iowa Code, 1971, § 357.12.

35. Iowa Code, 1971, § 357B.10.

36. Iowa Code, 1971, § 357C.8.

37. Iowa Code, 1971, § 358.9.

38. Iowa Code, 1971, § 467A.5(3).

39. Iowa Code, 1971, § 467A.5 and 6.

40. Iowa Code, 1971, § 455.4.

41. Iowa Code, 1971, § 311.4.

42. Iowa Code, 1971, § 358B.4.

43. Iowa Code, 1971, § 467D.5.

44. Iowa Code, 1971, § 308.1.

45. Iowa Code, 1971, § 358.18; 358.20; 358.21; and 358.22.

46. Iowa Code, 1971, § 358B.3 and 358B.13.

47. Iowa Code, 1971, §§ 357.8; 357.12; 357.20; 357.28.

48. Fire Districts are covered in Iowa Code, 1971, §§ 357B.5; 357B.9; 357B.11; 357B.12; while Street Lighting Districts are covered in Iowa Code, 1971, §§ 357C.5; 357C.7; 357C.9; and 357C.10.

49. Iowa Code, 1971, §§ 311.8; 311.10; 311.9; and 311.19.

50. Iowa Code, 1971, §§ 467D.12 and 467D.14.

51. Iowa Code, 1971, §§ 467A.23; 467A.26; and 467A.27.

52. Iowa Code, 1971, §§ 455.18; 455.19; 455.20; 455.45; 455.51; 455.63; 455.64; 455.75; 455.76; 455.81; 455.87; 455.88; 455.135; 455.138; 455.14; 455.142; and 455.146.

53. Iowa Code, 1971, § 357A.15.

54. Iowa Code, 1971, § 357A.12.

55. Iowa Code, 1971, § 357A.11.

56. Iowa Code, 1971, § 357A.13.

57. Iowa Code, 1971, § 357A.11.

58. Iowa Code, 1971, § 358.12.

59. Iowa Code, 1971, § 358B.8.

60. Iowa Code, 1971, § 467D.6.

61. See for example: Iowa Code, 1971, § 357B.11 (Benefited Fire Districts); Iowa Code, 1971, § 357C.9 (Benefited Street Lighting Districts); Iowa Code, 1971, § 311.6 (Secondary Road Assessment Districts); Iowa Code, 1971, § 467A.7 (Soil Conservation Districts); Iowa Code, 1971, § 357.27 (Benefited Water Districts); Iowa Code, 1971, § 308.1 (Park and Institutional Road Districts); and Iowa Code, 1971, § 455.1 (Levee and Drainage Districts).

62. See for example: Benefited Fire Districts, Iowa Code, 1971, § 357B.11; Benefited Street Lighting District, Iowa Code, 1971, § 357C.9; Benefited Water Districts, Iowa Code, 1971, § 357.27; Sanitary Districts, Iowa Code, 1971, §§ 358.11, 16 and 17; Library Districts, Iowa Code, 1971, § 358B.8; Soil Conservation Districts, Iowa Code, 1971, § 467A.7; Conservancy Districts, Iowa Code, 1971, § 467D.6; Secondary Road Assessment Districts, Iowa Code, 1971, § 311.6; Rural Water Districts, Iowa Code, 1971, § 357A.11; Levee and Drainage Districts, Iowa Code, 1971, § 455.29.

63. Iowa Code, 1971, § 357.31.

64. Iowa Code, 1971, § 358B.12.

65. Iowa Code, 1971, §§ 357B.14; 357.11; 358.11 and 358.17.

66. Iowa Code, 1971, §§ 455.10; 455.161; 455.170 and 455.187.

67. Iowa Code, 1971, §§ 467A.7; 467A.21; 467A.47; 467A.49; 467A.51 and 467A.53.

68. These districts are discussed in length in the *Des Moines Register*, January 16, 1972, p. F1 and 2.

69. Iowa Code, 1971, § 467D.

70. John C. Bollens' *Special District Government in the United States*, Univ. of California Press, Berkeley, 1957, p. 1.

71. U.S. Department of Commerce, Bureau of Census, "Governmental Units in 1962," *Preliminary Report No. 6*, Washington, D.C., Government Printing Office, 1962.

72. U.S. Department of Commerce, Bureau of Census, "Governmental Organizations", Washington, D.C., Government Printing Office, 1957 and 1967.

73. *Ibid.*

74. *Ibid*.

75. The 1957 *Census of Government* does not appear to contain a breakdown of Special Districts into SMSA.

PLANNING NATURAL RESOURCE USE AND ENVIRONMENTAL QUALITY WITHIN RURAL AREAS

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"It seems reasonably clear that regional land use planning is essential in order to effectively handle questions of population density, needs of different racial and economic groups, optimal land allocation for recreational and open space purposes, transportation needs, local and regional shopping centers, and other competing land uses."

"Land use and environmental research may well become mandatory and funded under national land use policy legislation as prerequisites to obtaining federal grants and loans for rural area programs."

THIS PAPER IS concerned primarily with the means at the disposal of society for planning natural resource use and environmental quality within the rural areas of our state and nation. In this context, planning is viewed in the normative and, hopefully, predictive sense of guiding natural resource use and environmental quality toward norms desired by people.

Since these norms, if fashioned as target variables or something other than mere platitudes, vary considerably among members of society, the planning process must strive to minimize conflicts within the society in harmonizing the various norms of its members. To the extent the planning process accomplishes this mission, development (or perhaps redevelopment) occurs. In this fashion, we introduce the concept of development.

In this paper, we regard rural areas as the open spaces between population centers or cities of greater than say 5,000 people, or some such arbitrary number.

In regard to rural communities, we prefer to stay with the concept of rural areas which connotes flexibility in accommodating change inherent in the planning process. These rural areas are undergoing considerable change resulting from consolidation of public services, improved transportation, redistricting of political representation, more leisure time, changes in life styles including residence and leisure preferences and economic activities. These changes appear to be accelerating with the accompanying need for planning land use patterns which will accommodate these changes in an orderly manner.

Natural resources include soil, water, air, wildlife, vegetation, topography, minerals, temperature, sunlight and location as attributes of a particular spatial area, or land. These attributes, natural resources, constitute the natural endowment from which necessities of life as well as affluences and amenities are derived.

Environmental quality refers to the state of natural resources regarded individually, i.e. quality of water or air, or together as functional entities in the form of biomes and ecosystems.[1/]

Most of these natural resources are located in rural areas where they are used or otherwise affected by man. Use impacts upon these resources and quality of the environment are associated with man's increasing affluence, use of technologies and population growth and distribution, and particularly, with our largely undisciplined resource use behavior.

[1/] For further discussion of natural resources and the natural environment and their interrelationships, see "Identification and Achievement of Environmental Quality Levels in Managing the Use of Natural Resources," Chapter 6 by John F. Timmons in Economics and Decision Making for Environmental Quality in process of publication by University of Florida Press, 1972.

Our thesis holds that institutional structures of property and policies influence man's behavior in the use of natural resources and environmental quality through permissive and restrictive conditions within man-to-man and man-to-men relationships. These structures constitute crucial means for motivating man to exploit, improve or maintain resources and to deteriorate or improve quality of resources and the natural environment.

Traditional rights in land evolved in a laissez faire manner during the pioneer periods of natural resource exploitation in the United States and Iowa. Now these rights must be modified and qualified to emphasize man's responsibilities in the use of these resources. In other words, land use structures can and must be restructured to help eliminate unrestrained exploitation of our natural resources and degradation of our natural environment.[2] This restructuring is high on the agenda of national, state and local needs in improving the use of our natural resources and the quality of our environment within our rural areas.

In the restructuring process, research and education are urgently needed to guide the planning process in providing people with information on alternative courses of action. Probable consequences of each alternative appraised in regard to people's individual and social objective functions must be provided in the selection of alternatives.

Our objectives in this paper are to suggest, (1) means through which policies and structures with their implementing instruments may be developed, and (2) research required for developing and applying these structures and policies. Research, policies and structures are regarded as inherent parts of the planning process for natural resource use and environmental quality within our rural areas.

In pursuing these objectives, we first review the major stages of change within the rural areas of Iowa in providing an understanding of the change process and current problems. Second, we examine the public decision making in relation to the changing concept of private property. Third, basic strategies in guiding land use patterns and environmental quality are outlined. Fourth, current and proposed legislation and structures for planning land use and environmental quality are reviewed. Fifth, the research needs of an orchestrated approach to land use planning and environmental quality are identified. Such research is deemed necessary in generating information for educational and planning activities in guiding land use and environmental quality toward objectives held by people residing in rural areas and consistent with regional, state and national objectives.

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[2] For further discussion of the concept of structures as applied to development and natural resources, see "Agricultural Development Through Modifying Land Tenure Arrangements," Chapter 5 by John F. Timmons in Economic Development of Agriculture. Center for Agricultural and Economic Development, I.S.U. Press. 1965. pp. 81 ff. Also see "Managing Natural Resources Through Land Tenure Structures," by John F. Timmons and J. M. Cormack in Journal of Soil and Water Conservation. Vol. 26, No. 1. Jan-Feb 1971. pp 5 ff.

Major Stages in Iowa's Rural Development

In providing understanding and appreciation of Iowa's current problems and incipient changes within rural areas, it may be helpful to retrace our development experiences. Although these experiences spanning almost one and one-half centuries represent a continuum of change, three major stages may be identified within the continuum. These stages with many overlapping elements are identified as follows: Stage 1, which might be termed the "development stage," began with settlement in the early 1830's, running through World War I and its aftermath and terminated in the early 1930's. Stage 2, which might be termed the "transitional stage," begins in the 1930's and runs through World War II and its aftermath well into the 1960's. Stage 3, which might be termed the "redevelopment stage," is in its beginning. Consequently, its termination is not in sight within the continuum of change characterizing rural areas.

Stage 1, the development stage, began in 1833 with the rush of settlers into the unsurveyed Iowa territory. This date was three years ahead of the rectangular survey initiated in 1836 and five years before the first land sales and auctions which began in 1838. Within five decades, practically all land within the boundaries of Iowa had been transferred from public to private ownership through public auctions and sales and grants, including railroad, military, homestead, internal improvement, and educational grants.[3]

During the century spanning Stage 1, Iowa's rural areas provided agricultural products, largely foods, and people for developing nonrural sectors of Iowa and other states. Also during this period, agriculture generated much of the capital through the concept of the

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[3] These transfers, including 35,865,439 acres, were made through the following methods and accompanying percentages: sales 33.2, military grants 39.3, internal improvement grants 18.6, educational grants 5.8, homestead grants 2.8 and other gifts and grants 0.3. See Roger W. Strohbehn and John F. Timmons, "Ownership of Iowa's Farmland," Research Bulletin 489 of Iowa State University Agricultural and Home Economics Experiment Station, December 1960, pg. 3.

"double developmental squeeze" for other sectors of the state's economy.[4]

During Stage 2--spanning the Great Depression and World War II and their aftermaths--rural areas continued to provide the state, nation and world with agricultural products. But significant changes occurred largely without the benefit of planning or guidance. This period included urban residential and industrial movements into rural areas as well as continued migration from rural to urban areas. At the same time, technologies and infrastructures contributed to these out-migrations and complicated the in-migrations. This period may be regarded as a transitional phase of change in rural areas which persisted well into the 1960's.

Stage 3, currently emerging in the 1970's, might be regarded as a redevelopment period for rural areas of the state. During this stage, rural areas will continue to provide food and raw materials for the state, nation and world markets. But these same areas will be increasingly pressed to provide more services for people in the form of living space, recreation and an improved environment. Within this redevelopment stage of rural areas, numerous conflicts in resource use and environmental quality are coming into view. These conflicts will increasingly demand resolution. Many of these conflicts may be avoided or mitigated through planning natural resource use, land use patterns and environmental quality. Such planning is likely to involve substantive alterations in the institutions and structures required to satisfy future needs. Implicit in the planning process is the need for a framework of decision making consistent with democratic methods and with an orderly redevelopment of rural areas.

A Framework for Decision Making

Despite a burgeoning literature and increasing governmental emphasis, land use planning is a relatively recent phenomenon. Only as the supply of land became limited did land use planning receive significant attention and then only to the extent needed to preclude one land use from interferring with another land use or one land use reducing the value of other property. Hence, early land use restraints tended to be rather gross and crude, born of necessity, shaped by convenience, and implemented by the courts out of judicial whole cloth. As a part of the "first generation" legal response to the problems of objectionable resource use, the law of nuisance afforded a remedy if property was used so as substantially to interfere with the use and enjoyment of another's property.(6)

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[4] See Wyn F. Owens, "The Double Developmental Squeeze on Agriculture." American Economic Review, March 1966, pp. 44-70, for elaboration of this concept.

The nuisance concept led eventually to statutes, such as the law passed in the Massachusetts Bay Colony in 1692, forbidding certain "nuisance" industries from operating in any districts except those designated by town officials. (2, p.1) But consistent with the pattern of reluctance to extend such limitations on local decision making beyond the realm of necessity, the Massachusetts Bay Colony legislation applied only to Boston, Salem, Charlestown and other market cities and towns of the province. Continuing through the first application of zoning laws in New York City in 1916, the now-famous case of Village of Euclid v. Ambler Realty Company[5] in 1926, upholding the constitutionality of zoning, and the legislative and judicial involvement in urban renewal beginning in the 1940's, land use regulation has been regarded primarily as an instrument for controlling urban development. Except for occasional use of county zoning, particularly in the Lake States, land in rural areas has, until recently, generally continued to be allocated and controlled largely by the dictates and nuances of unconstrained economic forces. In large measure, the decentralized operation of the market economy determined land use patterns outside developed areas.

Role of the Market

In a price or market economy, it has been assumed that determinations of resource use and income distribution are dual functions of the pricing mechanism. Relative prices determined in a competitive market have been relied upon to guide the economic system to an "efficient" use of resources. The resultant distribution of income and wealth, while perhaps not acceptable to society because of conflicting social objectives, is determined somewhat impartially and automatically by operation of the pricing system.

Any model of complete reliance upon market forces to allocate resources is subject to criticism. Such systems fail to internalize, for decision making purposes, costs and benefits that are external to the decision making process. The system fails to price public goods adequately. Where society has deemed the market system to be inadequate, attention has tended to focus on the legal system as a source of control and guidance partially or totally substituting for market forces.

Law as a Substitute for the Market

As a proxy for the market system, a legal scheme for controlling or shaping resource allocation and income distribution is expected to perform certain fundamental functions. Viewed from the standpoint of statics, a legal system may be evaluated by the extent to which these functions, ostensibly reflecting society's objectives, are accomplished.

If the legal system displaces the market in whole or in part, it is normally expected that the legal system will produce sufficient economic discipline to assure that the product, whatever it might be, is produced efficiently, at or near minimum cost per unit of output. Of all the tasks faced by law, this is one of the most difficult. The law can readily create an orderly and stable framework. But the law is hard pressed to assure an efficient system. Thus, a land use plan releasing precisely the "right" amount of land for the "right" development is difficult to draft.

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[5] 272 U.S. 365 (1926).

The legal system may also be charged with determining the quality of goods and services. Although this factor may be determined automatically in a market transaction where the price system is free to operate, an allocative system governed by law rather than market pressures often requires considerable attention to quality of output. As an example, a land use plan, either pursuant to basic statutory design or administrative rule, necessarily bears a heavy commitment to identified quality parameters.

Another function of law in connection with land use planning is the matter of distribution of rights to land among potential recipients. In a market economy, price rations the product among potential demanders. But recipients must be identified by legal rules, such as a permit system, if the market approach is not utilized.

Finally, the legal system is expected to be flexible and amenable to change as circumstances change. With shifts in price relationships, technology, consumer preferences, and population variables, the law should adjust automatically or with relative ease to accomplish the newly defined objective function. The common-law system, followed in the Anglo-Saxon world, rests heavily upon stare decisis et non quieta movere, meaning to adhere to precedent, to stand by decided cases, and not to unsettle established conditions.[6] A major criticism of law in providing allocative and income distribution models has been its slowness to change.

Nature of Private Property

Every form of economic organization must have loci of economic power: power over decision makers, power over resources, or power over consumption; or power to organize, to control or to discipline. Under a capitalistic system, economic power has its locus in ownership of property. Property is a form of power inherent in objects rather than in persons or office. While power over property has been considered a sine qua non of the market system, neither the United States' system of property ownership nor its immediate antecedents have ever recognized absolute ownership over property. This phenomenon of limitations on private property ownership is enormously important, for if property ownership were absolute, land use planning would be necessarily limited to the "carrot" type incentive. Limited property ownership creates opportunities for the "stick" approach as well given the requisite political resolve.

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[6] The doctrine rests upon the principle that law by which men are governed should be fixed, definite and known; and when the law is declared by a court of competent jurisdiction, such declaration in the absence of palpable mistake or error is itself evidence of the law until changed by competent authority.

The genesis of modern real property law, which provides for highly defined private property rights dates at least from 1066 A.D., the year of the Norman Conquest. With all lands held by the Crown, a system of tenure by which individuals were granted certain rights in the land became a practical necessity. Since the Crown needed a continuing supply of goods and services from the subjects, lands were granted to individuals on condition that a specified quantity of goods or services would be rendered annually. At first, those obtaining rights in land from the Crown were free to "subinfeudate" or create sub-leases to others. Basic to the system was the notion that the Crown retained certain rights over property.

While the subinfeudation aspects gradually faded from the scene, hurried along by statutory enactments, the concept of retained powers by the Crown or central government continued and was established in land granting practices in the colonies and later throughout the United States. A major problem, which continues down to the present, is the definition of rights held by the government and the rights held by the land owner.

Actually, the term "property" refers technically to the collection of interests in assets held by various individuals or firms. The complete set of property rights may be analogized to a bundle of sticks. Identifiable property rights include the power to sell, mortgage, possess and transmit by will; the right to enjoy the income therefrom; and the right to control use of the item or resource. If an owner held the most complete bundle of sticks, encompassing all possible property rights subject to private ownership, he was said to have a "fee simple" interest in the asset. Of course, it is possible to own less than a fee simple with the various rights in the bundle divided between or among two or more individuals or firms.

It is a fundamental precept of private property rights that every property owner, including even holders in fee simple, owns his interests subject to the property interests or rights retained by the state or central government. Three of these retained rights are crucial in land use planning efforts: (1) the police power, (2) the power of eminent domain or condemnation, and (3) the power to subject property to taxation. These three retained property rights, inherent in states, undergird virtually all land use planning efforts.

In addition to the retained governmental powers over private property, there has been some indication in recent years that members of the public at large may hold recognized powers over other's private property. In Michigan, for example, members of the public may bring actions for the purpose of protecting the "air, water and other natural resources and the public trust therein from pollution, impairment or destruction."[7] A showing of personal injury or damage is not required, thus going considerably beyond the traditional nuisance concept.

Strategies Open for Influencing Land Use Patterns and Environmental Quality

Although the plethora of state and federal programs presently in force would seem to defy any attempt at rational classification or categorization, legal authority for such programs is limited to certain state and federal powers. The expansiveness of such powers and the willingness of people to accept extensions of the constitutional framework for such powers constitute limitations on various levels of government in land use planning and environmental management.

State-level Powers Over Land

Police Power

One of the most utilitarian powers of state government, and of political subdivisions of states as well, is the police power. This power involves the sovereign nature of governments in limiting significantly personal liberties and property rights in the interests of public health, safety, and welfare. The police power recognizes the inherent right of people, through organized government, to protect themselves through an ordered society. Existence of the police power testifies to the impracticality of individual insistence on a full measure of personal and property rights where the intensity of personal and business activities of people assures that interindividual conflicts will occur with unfettered exercise of rights.

So long as for a reasonable public purpose, police power measures can be used to control various aspects of land use. Police power can be used to prohibit or restrict billboards at certain locations; enforce quarantines; require destruction of diseased trees or animals; control air and water pollution;[8] create wind erosion, weed control, soil conservation, grazing and other districts; enforce forest cutting restrictions; establish and enforce subdivision, building and occupancy regulations for housing; and enforce land use controls through zoning. Thus, the police power is indeed broad and multi-faceted.

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[7] Mich. Comp. Laws Ann. §§ 691.1202 (Supp. 1972).

[8] Nearly all state-level efforts at controlling air and water pollution are based upon the police power.

The police power is essentially a regulatory power and, so long as used reasonably, does not legally require compensation to the person or property owner affected. Yet exercise of the police power involves by definition encroachment on the personal and property rights of those affected. Even though individuals may suffer as a result, police power regulation does not rise to the standing or status of a compensable taking of the property as does exercise of the power of eminent domain. In effect, some reduction in an individual's property interests, some shrinking on one's bundle of sticks, is tolerated before the right to compensation is activated. While a strong economic case could be made for compensation even under exercise of the police power, with efforts made to force the sharing of gains from exercise of the police power with those suffering losses, nonetheless such has not been required. Rather than invoking a requirement of compensation, unreasonable exercise of the police power becomes unconstitutional and may be struck down.

State and local governments rarely use the full reservoir of police power authority. For example, most states did not give Soil Conservation Districts the power to adopt and enforce compulsory land use regulations. In only two states--California and North Dakota--was the power granted and then largely to prevent over grazing. In Colorado, the power was granted but later taken away.

Eminent Domain

Another retained right, even as against a fee simple property owner, is the right of governments to take private property for public use. Sometimes, governments have used this right broadly to strip land owners of their wealth or to expropriate lands with little or no compensation. However, most constitutional governments limit the right of expropriation to what is known as the power of eminent domain.

This power enables governments to appropriate private property for public uses without the consent of the owner so long as the property is taken under due process of law with the payment of "just" compensation.

Although exercise of the power of eminent domain typically involves the taking of all rights of the private property owner, exercise of the power in more limited ways has been upheld. Thus, states or political subdivisions may be enabled to condemn or take scenic easements, development rights, access rights, or air rights, for example, leaving the private property owner with less than a fee simple but with sufficient "sticks in the bundle" remaining to carry on some types of activity on the land.

The line between exercise of the power of eminent domain as a compensable taking and use of the police power as a constitutionally approved, non-compensable regulation is not capable of precise definition. Hence, as increasing reliance is placed upon the police power, as has been the case in recent years, constitutional concern is voiced over the limits of noncompensability. As the police power cuts more deeply into private property rights, it may be necessary legally (and desirable economically) for governments to purchase certain interests in land and other resources, though not necessarily the total interest in the property.

Taxation

The power of governments to levy and collect taxes over real property represents the third important power relevant to land use planning. Many of the taxes imposed by state and local governments are levied for the purpose of collecting revenue. But in modern times, tax systems have come to be viewed not only as generators of revenue but also as instruments of policy. The property tax, like the income tax; the death taxes; taxes on cigarettes, liquor and beer; and the tax on gambling, has served both masters and demonstrates the interrelationships of land use planning and revenue generation. Perhaps a part of the controversy and disagreement over optimality of the property tax system is traceable to this duality.

It is virtually an article of faith that a tax system, designed as a source of revenue, should function without injecting a systematic bias into economic decision making. Insofar as possible, the impact of the tax should be one of neutrality. Any deviation from this norm should constitute a deliberate and purposive decision on the part of the relevant decision making group such as the legislature to deal with the fundamental causes of sub-optimal land use. It is recognized, of course, that complete neutrality is rarely possible. Effects upon economic growth, income distribution and economic stability may be identified following the imposition of most taxes. Yet the usual criteria of a good tax system provide applicable guidelines for evaluating a property tax scheme to the extent that revenue generation is the relevant objective.

As a powerful planning instrument, the property tax is designed specifically to influence economic decision making. Fiscal policy has often been a moving force behind planning decisions. And taxation often influences the time, character, pattern and planning of land development. Thus, the property tax system has been used to encourage home ownership, grant tax-relief to farmers, provide reduced taxes to veterans, afford benefits to the low income elderly, and encourage forestry and open space preservation around cities. The criteria for evaluating the property tax as a planning instrument are less easily stated, less readily identified and less objectively applied than for the property tax as a source of revenue inasmuch as the precise objective to be accomplished is not always stated and is rarely expressed in terms permitting quantitative determinations of degree of accomplishment.

Widespread use of the property tax as a planning instrument has been encouraged by alignment of groups seeking a particular planning result and those endeavoring to obtain tax relief. Thus, farmers and conservationists have often been joined in support of legislation providing preferential assessment in urban fringe areas.[9/]

[9/] However, the literature has not openly recognized the degree of incompatibility among the various uses comprising farming and the acceptable

Spending Power

Obviously, state governments (and local governments to the extent they have the power to do so) may influence land use patterns indirectly through the expenditure of public funds. However, less use has been made of the spending power by governments at the state and local levels than has been the case with the federal government although substantial expenditures have been made for highways and other public works projects even at the state level.

Federal Powers Over Land

Without a police power, the federal government is forced to rely upon more indirect controls to influence land use. The power to regulate interstate and foreign commerce has been used to support federal farm programs[10] and to undergird federal air and water pollution control efforts.[11]

The Congress may spend public funds for almost any purpose so long as the spending is for the public welfare.[12] The spending power has been used to influence or direct land use patterns by subsidizing private land use practices, providing grants or cost sharing for state and local projects, acquiring land for public use, and carrying on public resource development projects. Also, the spending power has been used to provide public credit facilities.

The federal government plays a major role in land use policy through exercise of the proprietary power over publicly owned lands.(12) Nearly one-third of the nation's land is held in public ownership, with that ownership concentrated in areas where objectives of private land ownership may depart significantly from objectives pursued if under public control.

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uses for open space purposes. Externalities from some farming uses are likely to become increasingly repugnant to those relying upon farming as assuring desirable low density use. Water pollution from fertilizers and livestock operations, air pollution from concentrations of farm animals, noise and traffic accompanying modern commercial farming operations, and scenic objections to unaesthetic collections of farm machinery and building complexes, may be unacceptable components of open space uses. Perhaps only the first generation of descendants from farmers will be prepared to overlook these externalities from farming operations and to consider the relationship between farming and open space preservation to be complementary.

[10] See Wickard v. Filburn, 317 U.S. 111 (1942).

[11] For example, the 1899 Rivers and Harbors Act, The Clean Air Act of 1963, Water Pollution Control Act of 1965, The Air Quality Act of 1967, The National Environmental Policy Act of 1969, The Clean Air Amendments of 1970.

[12] E.g., United States v. Butler, 297 U.S. 1 (1936).

Current and Emerging Structures for Planning Land Use and Environmental Quality

Until very recently, land use control has been viewed as an urban problem, with heavy reliance on zoning for solutions. Although zoning as a land use control device has become increasingly sophisticated, it has not contributed to a viable land use planning process and has not given rise to acceptable land use plans where impacts of development were felt beyond the jurisdiction of the zoning authority. This may be due in part to the static nature of zoning and in part to inability of local governments having zoning power to plan comprehensively. Thus, zoning has become a tool of limited usefulness in the hands of local governmental units unable to deal with regional or statewide land use planning problems and issues.

What has been termed a "quiet revolution" in land use control is emerging, partly in response to a "growing awareness on the part of both local communities and statewide interests that states, not local governments, are the only existing political entities capable of devising innovative techniques and governmental structures to solve problems such as pollution, destruction of fragile natural resources, the shortage of decent housing, and many other problems which are now widely recognized as simply beyond the capacity of local governments acting alone." (2, p.3). Recent legislative proposals in the Congress, specifically S. 992 the "Administration Bill," and S. 632, the "Jackson Bill," indicate growing interest in establishing a more visible federal posture in land use controls as well.

The quiet revolution from no-controls or reliance on zoning alone, to more comprehensive systems of land use control at the state or federal level is already well underway in many states and may be almost upon us even in Iowa.

Role of Zoning in the Planning Process

With its origins in nuisance law, zoning was at first limited to adjusting land use incompatibilities and the prohibition of harmful land use externalities at the local level. (9, p. 175) With zoning administered on a community or area basis, it can become a part of a comprehensive plan. Properly viewed, zoning is a tool, often a useful tool, with a possible role to play in an overall development program.

The plan itself should provide a basic rationale of objectives or criteria for policy making. Implementation of zoning as a tool without such a plan either consigns an area to a static, statutorily determined future, or opens the door to ad hoc political vulnerability as development decisions are influenced not by overall policy considerations but by local political pressures.

It seems reasonably clear that regional land use planning is essential in order to effectively handle questions of population density, needs of

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different racial and economic groups, optimal land allocation for recreational and open space purposes, transportation needs, local and regional shopping centers, and other competing land uses.

Inherent in the comprehensive plan approach as a precursor to implementation of zoning ordinances is the notion of "tighter" control over land use decisions. With this approach, more control over freedom of choice may be needed than has been held in the past by land use planning agencies. It becomes a fundamental question whether citizens will accept such control in the interests of accomplishing overall community and regional objectives.

A greater degree of control over choice in land use may also accentuate the problem of gains from development and, conversely, the gains foregone from those failing to obtain approval for development of land to its highest and best use. Several possibilities exist, at least theoretically, for solution of the problems and generally involve taxing away part or all of the gains from development (as unearned increments) and compensation for losses on bases more finite and precise than the traditional police power-eminent domain dichotomy. (9, pp. 185-86) This is discussed in the following section.

Taxation Policies and Development

Traditionally, property subject to taxation has been valued uniformly on the basis of its highest and best use. "Highest and best use" has often been defined in economic terms. It has been urged that if social values were incorporated into the criteria of value, the highest and best use might be that use which would promote the safest, healthiest, most culturally stimulating and socially secure environment."[13/] While providing considerable appeal, this notion hardly provides an operational base for decision making under the current state of knowledge.

The landowner enveloped in the on-rush of development variously referred to as urban sprawl,[14/] scatteration,[15/] or slurbs[16/] deserves both sympathy and envy. Taxing the land owner on the basis of the higher market value

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[13/] Moffitt, "Planning and Assessing Practice," 42 Land Econ. 371 (1966).

[14/] Whyte, "Urban Sprawl," in The Exploding Metropolis 116 (1958).

[15/] Calif. State Office of Planning, Urban Metropolitan Open Space Study (1965) (prepared by Eckbo, Dean, Austin & Williams, San Francisco, Calif.)

[16/] Wood & Heller, California Going, Going. . .10 (1962): "The character and quality of urban sprawl is [sic] readily recognized: neon bright strip cities along main traveled roads; housing tracts in profusion; clogged roads and billboard alleys; a chaotic mixture of supermarkets, used car lots, and pizza parlors; the asphalt plain of parking spaces; instead of parks, grey looking fields forlornly waiting to be subdivided. These are the qualities of most of new urban areas - of our slurbs - our sloppy, sleazy, slovenly, slipshod semi cities."

for development may be inequitable from the standpoint of either the owner's ability to pay the tax from income or the benefits likely to be received from the encroachment of development.[17] It can be argued, however, that the landowner would have the ability to pay the tax if he sells his land at fair market value and moves to new land more distant from urban development. Moreover, under current federal income tax law a landowner may exchange his high value-low basis land tax-free for more acres of land at lower value.[18]

However, the plea of the landowner, who is within the range of development, for tax relief may fall on less than fully sympathetic ears when it is realized that a windfall gain, neither caused nor encouraged by his efforts, accrues gradually to the landowner as the edge of development approaches his property.[19] It scarcely seems inequitable to tax the landowner accordingly as his land doubles, triples and quadruples in value. As a matter of public policy, it has been argued that attention should perhaps be given to capturing for society the windfall gains from development rather than granting further tax relief to the unhesitant beneficiaries of such increments of value.[20]

State Land Use Planning Responses Beyond Zoning and Taxation Policies

Several states, without a great deal of fanfare outside the respective jurisdictions have moved quietly in the past decade to implement statewide or regional land use planning efforts. The responses have not been uniform or consistent except to recognize the police power as the basic authority for action. Each of the states has custom tailored a framework to fit its own unique social, political and environmental conditions (2, p. 290). Several more states have chartered study groups or commissions to consider possible land use planning legislation. (2, p. 290)

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[17] See Stocker, "How Should We Tax Farmland in the Rural Urban Fringe?" in National Tax Ass'n, Proceedings of the 54th Annual Conference 463, 465 (1961).

[18] Int. Rev. Code of 1954 § 1031.

[19] It has been reported that suburban high rise apartments exceed all other land uses in revenue production at an estimated $259,500 per acre. Melamed, "High Rent Apartments in the Suburbs," Urban Land, Oct. 1961, at 5. Professional uses are (97,400 per acre, industrial uses $91,700 and shopping centers $110,000 per acre.

[20] For a discussion of "site value taxation," which involves taxation of land more heavily than improvements, see, e.g., Gaffney, "Property Taxes and the Frequency of Urban Renewal," in National Tax Ass'n, Proceedings of the 57th Annual Conference (1964). See also Hagman, "The Single Tax and Land Use Planning: Henry George Updated," 12 U.C.L.A. L. Rev. 762 (1965).

In an analysis of each state's legislation, three major considerations stand out: (1) What is the scope of the act in terms of resources subject to control? (2) Who makes planning decisions? (3) What are the criteria, directions or guidelines provided by statute?

Vermont Environmental Control Law

Somewhat in response to the ski-resort and second home boom of the 1960's, the Vermont legislature in 1970 enacted far reaching land use control legislation.[21] The Act created a state-level Environmental Board and seven districts, each district with a three member appointed commission to administer the new law. The Board, comprised of nine members appointed by the Governor, is charged with adopting

> "a capability and development plan . . . which shall be made with the general purpose of guiding and accomplishing a coordinated, efficient and economic development of the state, which will, in accordance with present and future needs and resources, best promote the health, safety, order, convenience, prosperity and welfare of the inhabitants, as well as efficiency and economy in the process of development, including but not limited to, such distribution of population and of the uses of the land for urbanization, trade, industry, habitation, recreation, agriculture, forestry and other uses as will tend to create conditions favorable to transportation, health, safety, civic activities and educational and cultural opportunities, reduce the wastes of financial and human resources which result from either excessive congestion or excessive scattering of population and tend toward an efficient and economic utilization of drainage, sanitary, and other facilities and resources and the conservation and production of the supply of food, water and minerals."[22]

The Board has a judgment function of issuing development and subdivision permits through the district commissioners. Before granting a permit, the board or district commission must specifically find that the proposed subdivision or development (1) will not result in undue water or air pollution, (2) has sufficient water available for the reasonably forseeable future and will not place an unreasonable burden on existing water supplies, (3) will not cause unreasonable soil erosion, (4) will not cause unreasonable highway congestion or unsafe conditions, (5) will not cause an unreasonable burden on local governments in providing educational, municipal or governmental services, (6) will not have an adverse effect on scenic or natural beauty of the area, and (7) is in conformity with local, regional and state plans.[23] Moreover, the Board may reject local zoning decisions found to be inconsistent with the policies of the statute.

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[21] Vt. State. Stat. Ann. Tit. 10, ch. 151, §§ 6001-6091. (Supp. 1970).

[22] 10 Vt. Stat. Ann. ch. 151, §§ 6042.

The new law carries penalties for violations of up to $500 per day or not more than two years' imprisonment.[24]

Hawaii Land Use Law of 1963[25]

One of the first attempts at comprehensive land use planning, the Hawaii Land Use Law, created a state Land Use Commission with broad powers and directed the Commission to divide the land in the entire state into four districts: conservation, agricultural, rural (small farms and low density residential lots) and urban.[26] Land in the urban districts could be used for purposes permitted by local zoning regulations, lands in conservation districts were to comply with regulations of the Department of Land and Natural Resources, and lands in agricultural and rural districts were to be used only in compliance with regulations of the Land Use Commission.

The Land Use Commission is comprised of seven citizens who serve by appointment, as well as the Director of the Department of Land and Natural Resources and the Director of the Department of Planning and Economic Development.

After nearly a decade of operation, one team of observers perceives three major policies that seem to be guiding administrative decision-making under the Act: (2, p. 13) (1) prime agricultural land should be preserved for agricultural uses, (2) tourist attracting development should be encouraged without disturbing the attractions of the natural landscape, and (3) compact and efficient urban areas should be provided where people can live at reasonable cost.

Colorado Land Use Act

Three separate bills enacted by the Colorado legislature in 1971 together are referred to as the Colorado Land Use Act of 1971.[27] The Land Use Commission was expanded to nine members and an advisory committee representing major public interest groups was established. The Commission was charged with formulating state development policy and a series of standards and guidelines for various units of government in the state.

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[23] Id., § 6086.

[24] Id., § 6003.

[25] Hawaii Rev. Stat. ch. 205 (1968).

[26] Id., § 205-2.

[27] Colo. Session Laws 1971, Ch. 259, 261 and 262.

Specifically, the Commission is charged with developing model subdivision regulations, systems for monitoring growth and change in the state, methods for identifying environmental concerns and relating them to development and means for evaluating the impact of proposed developments.

The Acts also provide financial assistance for local planning efforts. Counties are required to create planning commissions and to promulgate subdivision regulations.

The Governor of the State, on recommendation of the Land Use Commission may restrain any land development activity constituting a danger or potential danger of irreparable injury, loss, or damage of serious and major proportions to the public health, safety and welfare.

Maine Site Location Law

In 1970, confronted by increased tourism and proposals for major oil terminals in the sea coast areas, Maine enacted legislation requiring permit approval by the Maine Environmental Improvement Commission for new developments which may "substantially affect environment."[28] The Commission is made up of ten members appointed by the Governor.

Under the new law, administrative decisions are to be governed by four criteria: (1) financial capacity and technical ability to meet air and water pollution control standards and adequate solid waste disposal measures, offensive odor control and water supply; (2) adequate traffic movement; (3) no adverse effect on the natural environment; and (4) to be built on soil types suitable for the undertaking.

Other State Legislation

Several other jurisdictions have responded to the need for local or specialized land use planning controls. The Massachusetts Low and Moderate Income Housing Law of 1969[29] established special procedures enabling a qualified housing developer seeking to build low income housing to circumvent local zoning laws. The San Francisco Bay Conservation and Development Commission was created by the California legislature in 1965 in response to concerns over filling operations in the San Francisco Bay. The Commission was authorized to prepare a plan for future development of the Bay and to limit all fills to water oriented uses.

The Massachusetts Wetlands Protection Program requires permits of those altering the natural characteristics of coastal wetlands and authorizes the use of more restrictive "protective orders" which are essentially conservation restrictions.[30]

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[28] Maine Site Location of Development Act of 1970, Maine Rev. Stat. Ann. tit. 38, §§ 481-488.

[29] Mass. Gen. Laws Ann., tit. 40B, §§ 20-23 (Supp. 1971).

[30] Mass. Gen. Laws Ann. tit. 130, §§ 105 (Supp. 1970).

A New York statute enacted in 1971 provides for the establishment of agricultural districts within counties or between counties, containing "unique and irreplaceable agricultural land."[31] This legislation is designed to protect certain agricultural land from incursions by other uses.

Proposed Federal Legislation

Traditionally, land use policy has been largely a matter for individual states to pursue. The utilitarian police power, limited and judicious use of eminent domain, plus careful use of the taxation and spending powers, have generally been viewed as affording states an adequate arsenal for land use control to the extent control was needed. The federal government has consistently avoided direct involvement in private land use problems.

Two bills presently before the Congress could change the federal stance on land use controls through application of the federal spending power. The proposed legislation would establish national land use policy for non-federal lands. Hearings on the proposed legislation were held during 1971; both bills have been reported to the Interior and Insular Affairs Committee.[32]

The Administration Bill, S. 992

Under the "Administration" Bill, S. 992, states would be encouraged through grants to plan and regulate land use in certain critical areas. Grants would be available for up to 50 percent of the cost of developing and managing land use programs. State programs would be required to establish control over areas of "critical environmental concern" and areas "impacted by key facilities." Moreover, state programs would be required to provide methods for assuring that local regulations do not restrict land use and developments of regional benefit, methods for controlling land use around new communities and methods for controlling proposed large-scale development of more than local impact on the environment. Essentially, the administration bill pursues the "carrot" concept of encouraging states to plan along specified lines and to implement their land use programs through a single state agency designated by the Governor.

The administration bill recognizes three broad techniques that may be used as a state's method of control: (1) direct state land use planning and regulation, (2) concurrent state and local regulation, and (3) state establishment of criteria and standards for local implementation and control. (11, p. 84)

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[31] McKinney's Session Laws of New York 1971, ch. 479.

[32] Letter from U.S. Senator Henry M. Jackson to Neil E. Harl dated May 1, 1972. A suggested combination of the alternative proposals has been published as Committee Print No. 3, Committee on Interior and Insular Affairs, United States Senate, National Land Use Policy (1972).

If a state failed to develop an approved plan, any major federal action proposed after December 31, 1974, which would significantly affect the use of non-federal lands, would have to be preceded by a public hearing at least 180 days in advance to determine the effects of the action on land use.

The Jackson Bill, S. 632

Under the Jackson Bill, primary control over state and local land use plans would be exercised by an expanded Water Resources Council, to be renamed the "Land and Water Resources Council." The proposal would essentially establish performance standards and leave the states to select from available planning alternatives whatever mechanism best suits their needs.

If a state failed to submit a statewide land use plan within five years after issuance of regulations under the new act, any new federally supported action would be prohibited which might have a substantial adverse impact or which would or would tend to irreversibly or irretrievable commit substantial land or water resources in the state unless the President intervened in the interests of public health, safety or welfare.

The Jackson Bill would authorize up to $100 million annually for the program with the federal government paying up to 90 percent of the costs in the first five years and 66 2/3 percent thereafter. By contrast, the Administration Bill would authorize $20 million annually with 50 percent cost sharing by the states.

A Rational Approach to Land Use Planning and Environmental Quality--Needs for Research

It appears indeed likely that pressures will build in many states over the next several months for meaningful land use planning. If either of the proposed federal bills is enacted by the Congress, every state would be encouraged to set in motion land use planning efforts. Even without the federal legislation, conflicts over land use will continually arise, suggesting a system for rational reconciliation of uses. In Iowa and other predominantly agricultural states, two concerns may well prove to be instrumental in gauging acceptability of restrictive land use regulations: (1) concern over externalities, particularly odors, suffered by residents in rural areas, and (2) the impact of uncontrolled development on irreplaceable natural resources such as watercourses and wooded areas. The often-articulated fear of loss of productive agricultural land to development is probably of less overall concern.

Underpinning educational, planning and implementation programs for guiding land use and environmental quality changes are the informational needs to be provided by research. Such research will necessarily be multidisciplinary including the physical, biological and social sciences and the humanities. This research requires consideration of factors and forces external to the rural area under consideration. An example of this research at an applied level is the current impact study being conducted in the Ames reservoir area.

Land use and environmental research may well become mandatory and funded under national land use policy legislation as prerequisites to obtaining federal grants and loans for rural area programs.

Some of the more pressing problems requiring research may be briefed as follows:

1. Designation of land uses by areas. This involves analyses of demand for uses in relation to relative abilities of various land areas to satisfy these demands. This designation would entail designation of areas for the following uses: (a) cropping and grazing, (b) feedlots, (c) residential, (d) industrial, (e) transportation, (f) communication, (g) waste disposal, (h) recreational and esthetic, (i) fragile areas, (j) forest, etc. Such designations are likely requirements under pending national and state land use policy legislation.

2. Determination of environmental quality levels consistent with the maintenance of natural resources, human health and esthetic requirements and resource productivity.

3. Impact statements required of agencies under the 1969 Environmental Protection Act prior to initiating developments affecting natural resources and the natural environment.

4. Analyses of local, state and federal responsibilities in managing natural resources and the natural environment.

5. Analysis of various controls in enforcing land use plans.

Thus, research is clearly needed on the precise nature, scope and magnitude of current and projected land use conflicts in Iowa. And it would be helpful to know the expected economic and social consequences of alternative planning techniques. In addition to such needed research information, certain key issues may be identified for consideration:

1. Attention should be given to the appropriate criteria to guide land use planning efforts. Although Reich questions whether planning and allocation decisions can be made under objective criteria, (13, p. 1237) without policies to guide the planning effort neither consistency nor optimality is defined. Increasingly the question is being asked whether a particular use will make the "best" use of land resources.

2. State-level land use planning runs a substantial risk of state involvement in detail and minutiae. A framework that leaves local issues to local governments but provides a mechanism for handling major development proposals at the state level under a broader conception of overall resource use may be a useful point of departure for analysis.

3. Any regulation is expensive in that scarce resources are consumed, innovation may be reduced and investment discouraged. Within the constraints of a land use plan, which would hopefully deal effectively with cost externalities, maximum reliance should still be placed on the market

mechanism for resource allocation and income distribution within the defined limits.

4. Estimates of costs involved and new technology needed to approach the point of zero externalities for various kinds of producing units would constitute helpful policy information. While some believe that odor problems would be solved with land use controls limiting rural residences for non-farm residents, some of the most bitter disagreements over acceptability of odors in rural areas have involved farmers as both creator the problem and objector to its continuation. The future may very well require of one engaged in economic or non-economic activity that he not affect others adversely. Creation of buffer zones to deal with technologically intractable air or noise pollution problems may eventually be necessary. In any event, costs of production are likely to be affected.

5. Since resource allocation and income distribution by planning fail to consider an appropriate calculus of benefits generated and costs created thereby, research attention should be devoted to the questions of (a) economic and social importance of such adjustments and (b) means by which such costs and benefits may be taken into account. Public appropriation or part or all of the development benefits constitutes one possible approach with compensation to those suffering even within the limits of noncompensable police power regulation.

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PRESENT POTENTIAL FOR RECREATIONAL DEVELOPMENT IN IOWA

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"Recreational development is not likely, by itself, to be a producer of large amounts of income and employment on a statewide basis. It may have significant income and employment effects, however, in areas with special development opportunities because of unusual natural and cultural resources."

"Iowa has greater potential for recreational development than is sometimes realized. Such development is an important aspect of a high-quality environment for living."

IOWA HAS a stereotype in many quarters as an entirely flat, uninteresting landscape devoted almost entirely to a single purpose--farming. Even the most casual inspection of the rolling landscape, with relatively small but very interesting woodlands and wildlife habitat along streams throughout significant portions of the state, shows this stereotype to be a rather gross oversimplification. So does industrial growth at rates well exceeding the national average during a significant portion of the 1960's, as discussed in this seminar series.

Recreational development is not likely, by itself, to be a producer of large amounts of income and employment on a statewide basis. It may have significant income and employment effects, however, in areas with special development opportunities because of unusual natural and cultural resources. And quality recreational development can help create a more pleasant environment for living on a more widespread basis. While not a direct source of income and employment, such an environment for living can help Iowa obtain a share of the knowledge-producing and knowledge-processing industries which seem to be an increasingly important feature of our post-industrial society (Drucker, 1970). An observation earlier in this seminar series, that so-called "unattached industries" grew faster during the 1960's than any more cohesive category, may reflect these possibilities. Location of a major IBM facility in nearby Rochester, Minn., is, we believe, also one very pertinent illustration of the role of environment for living as a location factor. We hypothesize that the factors discussed by a long array of authors stretching from von Thunen, to August Losch (1954), to Edgar Hoover (1948), and to Melvin Greenhut (1956), have become somewhat less critical for some of the most desirable types of industry. If correct, this has allowed other factors, such as environment for living, to play an appreciable role.

With these introductory ideas, we would like to discuss with you the growing importance of outdoor recreation, some things we have learned about recreational activity in our state, special development opportunities which we see, and, finally, measures which seem critically important if these special opportunities are to be successfully developed. These measures include both action and research to guide action.

Growing Importance of Outdoor Recreation

The demand for outdoor recreation and use of outdoor recreation facilities and areas continue to rapidly increase in the United States. Visits to most public outdoor recreation areas continue to grow at a greater rate than actual population growth. Visits to state recreation areas are growing more rapidly than visits to federal areas. Even though records are not readily available, many professionals believe increases in visitation rates are the greatest for county and municipal areas.

Much of the growth in outdoor recreation is related to, and perhaps a direct result of, changes in many sociological, economic, technological, and demographic factors, as well as the actual supply of recreation facilities and areas. Many other factors, such as degree of facility development, advertising, and access, have been suggested to have some effect on use patterns for specific activities.

The factors which influence the growth of outdoor recreation demand and changes in use patterns include the following:

- population is increasing
- real income is increasing
- leisure time is increasing
- employee-paid vacations are increasing (both numbers and length)
- education levels are increasing
- mobility of people is increasing
- rural population is decreasing
- outdoor recreation areas are increasing
- more public and private capital is being allocated for developing outdoor recreation opportunities
- highways are being increased and improved, giving better and more convenient access
- advertising of newly developed outdoor recreation goods and services is increasing for both public and private sectors

A few statistics dramatize the increasing importance of outdoor recreation in the United States. Driving for pleasure and sightseeing are the most popular "sports" in which people participate. In order to participate in these activities, people, at a minimum, must be mobile, have good highways to travel, and have sufficient income to absorb the expense of traveling. These factors characterize a large and growing proportion of our people.

Since 1918, family automobiles have increased from 5½ million to 78 million vehicles in 1967 and approximately 95 million in 1970. Two- and three-car families are no longer unusual. Most major cities are presently connected with four-lane, limited-access highways, and more freeways are planned. Family real income levels continue to rise in our affluent society despite periods of inflationary pain. All of these factors lead to greater participation in outdoor recreation activities and influence recreational demand.

Technological developments and creation of new recreation vehicles, equipment, and gadgets within the reach of existing income levels of many people has led to tremendous increases in sales value and quantity of these goods. In the nine years between 1958 and 1967, the sales value of many types of recreation equipment more than doubled. Percentage increases for units sold in these categories range from 30 to 150 percent.

Golfing is another activity that shows substantial increases in

Table I

Growth of Sales Value of Selected Outdoor Recreation Equipment and Vehicles

Equipment or Vehicle	1958		1967		Percentage Increase in Units Sold
	Quantity (1,000's)	Dollar Value (1,000's)	Quantity (1,000's)	Dollar Value (1,000's)	
Fishing Rods	5,408	16,522	9,741	31,500	80
Fishing Reels	5,428	22,816	7,209	30,100	33
Golf Clubs and Irons	6,433	32,000	8,342	72,000	30
Bicycles	2,000	60,000	5,000	144,000	150
Snowmobiles	NA	NA	48	36,000	--

Table II

Growth in Number of Hunting and Fishing Licenses in Iowa and the United States

Year	Hunting Licenses (1,000's)		Fishing Licenses (1,000's)	
	U.S.	Iowa	U.S.	Iowa
1960	18,439.6	326.7	23,322.9	391.6
1965	19,371.6	337.2	24,976.3	432.9
1969	21,621.6	321.6	29,855.5	425.5
Percentage Increase	17.3	-1.6	28.0	8.7

participation, nationally. In 1947 there were 2,517 million golfers in the United States. The numbers increase rapidly: 1950, 3,215 million; 1960, 4,400 million; and 1970, 9,700 million. Between 1960 and 1970 alone, the number of golfers in the United States increased by 120 percent.

Less dramatic increases, but extremely important from the viewpoint of resource-oriented management agencies, e.g., the Iowa Conservation Commission, is information concerning hunting and fishing licenses.

Nationally, moderate increases occurred in the number of hunting and fishing licenses sold during the 1960's. In contrast, recent Iowa figures show fewer hunting and fishing licenses being sold, especially since 1965. This coincides with the 1970 Iowa outdoor recreation survey results that show fewer Iowans hunting and fishing in 1970 than in 1966.

Direct effects of the increasing demand for outdoor recreation are reflected in the national economy. It is clear that a measurable portion of the nation's gross national product can be attributed to the increase in money spent and services demanded by recreationists. Large industries have evolved in a very short time period, e.g., the camper-trailer and snowmobile industries.

Patterns of Recreational Activity

The best recognized and most authoritative national studies of outdoor recreation participation patterns have been conducted by the Bureau of Outdoor Recreation (BOR). The first significant national study was completed by the Outdoor Recreation Resources Review Commission (ORRRC). The ORRRC reports were published in 1962 and led to the formation of BOR, which then carried out subsequent studies.

The Bureau has grouped activities for purposes of analysis into four basic categories: passive, physically active, water-oriented, and backwoods. For some purposes, winter sports have also been classified as a separate category.

Passive activities are the most popular nationally, accounting for about one-half of all participation days. During 1960, people 12 years and older in the U.S. participated in the activities listed in Table III on 3,961 million different days. This increased to 5,964 million different days in 1965, an increase of 51 percent. Participation in physically active activities shows the largest percentage increase--95 percent between 1960 and 1965. Backwoods activities follows with a 62 percent increase; passive activities, 41 percent increase; and water-oriented activities show a 39 percent increase.

Outdoor recreation studies conducted in Iowa during 1966 and 1970 showed similar patterns for Iowa for the same activities but large

Table III

Classification of Outdoor Recreation Activities

Class	Activity
Passive	Driving for Pleasure Picnicking Walking for pleasure Attending outdoor sports events Taking nature walks Attending outdoor plays or concerts
Physically Active	Bicycling Playing outdoor games Horseback riding
Water-oriented	Fishing Swimming (pool) Swimming (natural areas) Boating Waterskiing
Backwoods	Camping

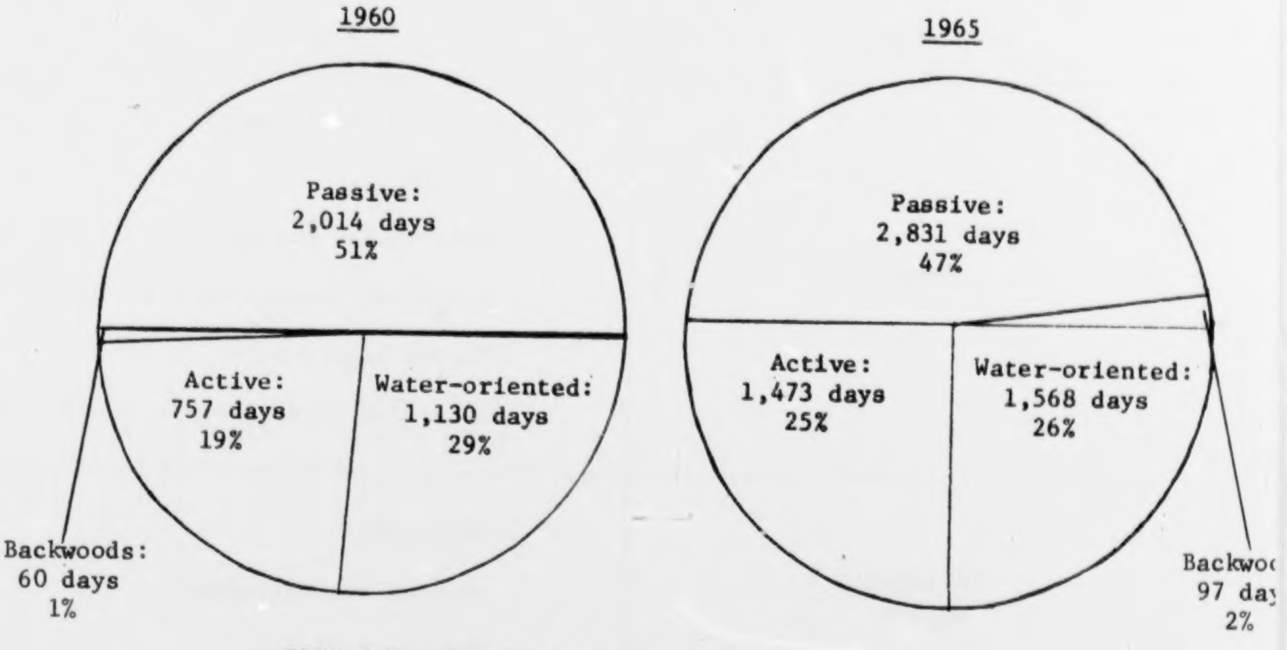

FIGURE I: Total Participation for the Major Summer Outdoor Recreation Activities in the United States by people 12 Years and Older (Millions of different days).

differences for rates of increase. Both the 1966 and 1970 studies were sponsored by the Iowa Conservation Commission, ISU Department of Forestry, and ISU Statistical Laboratory. A random sample of Iowa residents 12 years and older was taken using personal interviews. Data were collected for an entire year--Labor Day to Labor Day, e.g., for the 1970 study, the time period was Labor Day 1969 to Labor Day 1970. The 1966 data was the basis for projecting future participation levels for several activities to 1980.

During 1966, Iowans 12 years and older participated in these activities on 123 million different days. This increased to 144 million different days in 1970, an increase of 18 percent. This over-all percentage increase is well below national levels. Allocation of total days by passive, active, water-oriented, and backwoods categories are quite similar to national patterns. For the time period 1966-1970, however, percentage increases for the four classes of outdoor recreation activities differ greatly from the U.S. 1960-65 trends. Backwoods activities show the greatest percentage increase for Iowans (136 percent). Physically active activities showed a 38 percent increase; water-oriented, 15 percent increase; and passive activities, 7 percent increase.

Iowa does not differ significantly from surrounding states and the U.S. patterns in terms of the percentage of persons 12 years and older participating in outdoor recreation activities. Driving for pleasure is higher for Iowa than the U.S., however. It is also interesting that fewer Iowans participated in bicycling, horseback riding, fishing, and several other activities in 1970 than in 1966. These findings contradict most projected national trends.

The 1970 statewide survey of participation in outdoor recreation by Iowans showed very small changes in the days of participation per participant since 1966. Even though most activities showed only modest changes in participation rates and the percentage of people participating, some rather large changes occurred in the total days of participation (Table IV).

The most popular activity continues to be "driving for pleasure and sightseeing". Trailer and tent-trailer camping showed a 194 percent increase in total days of participation between 1966 and 1970. Large increases in total days of participation also occurred for outdoor swimming and hunting small game. It is interesting that fewer people hunted small game but the rate per participant more than doubled. This factor alone accounts for the 61 percent increase in hunting small game. Birdwatching exhibited a 17 percent decrease in total days of participation. Smaller decreases occurred for bicycling and playing baseball and softball. These decreasing trends are contradictory to national trends.

Outdoor recreation use patterns in Iowa differ somewhat from U.S. patterns made by the Bureau of Outdoor Recreation. A number of factors

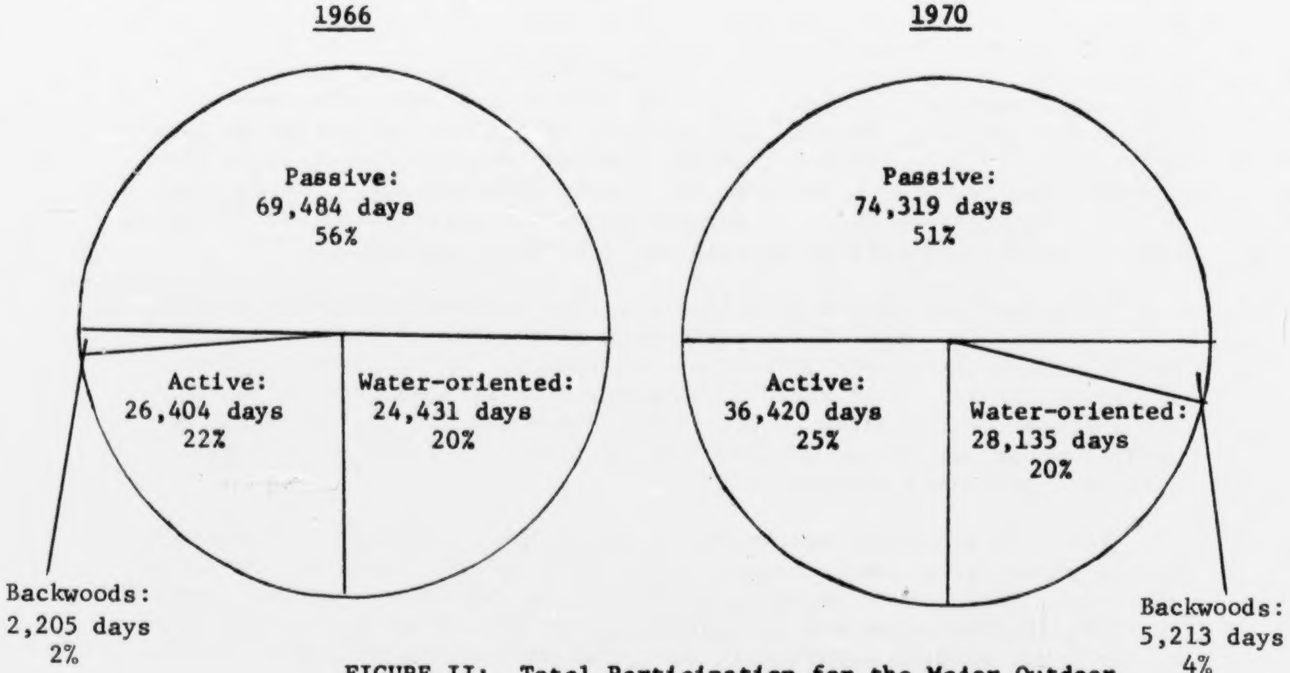

FIGURE II: Total Participation for the Major Outdoor Recreation Activities in Iowa Between Labor Day 1966 and Labor Day 1970 by People 12 Years and Older (Thousands of Days).

Table IV

Participation by Iowans, when away from home, in selected outdoor recreation activities[1]

Activity	1966[2]			1970[3]			Percent Increase 1966 to 1970
	Total Days (1000's)	Mean Days Per Participant	Percent Participating	Total Days (1000's)	Mean Days Per Participant	Percent Participating	
Driving for Pleasure and Sightseeing[4]	28,124	17.8	78.7	32,299	20.5	77.8	14.8
Hiking and Walking for Pleasure[5]	17,935	15.3	58.6	17,961	16.4	54.1	0.1
Bicycling	12,093	27.9	21.7	11,966	38.4	15,5	-1.1
Attending Outdoor Sports Events	8,701	9.0	48.3	10,131	10.7	46.9	16.4
Fishing	8,457	10.4	40.7	8,329	10.5	39.2	-1.5
Swimming (Outdoor Pool)	6,237	13.9	22.4	7,417	13.9	26.3	18.9
Swimming (Other Outdoors)	3,848	6.5	24.5	6,263	9.4	33.0	62.8
Playing Baseball and Softball	5,368	12.4	21.7	5,317	12.4	21.4	-1.0
Motorcycling	3,465	19.2	9.0	4,739	20.4	11.5	36.8
Playing Golf	3,718	19.8	9.4	4,273	18.4	11.5	14.9
Hunting Small Game	2,415	7.0	17.2	3,886	12.2	15.7	60.9
Trailer and Tent Trailer Camping	1,221	9.2	6.6	3,588	11.1	15.9	193.9
Nature Walks	1,678	5.5	15.3	2,399	6.7	17.7	42.9
Birdwatching	1,443	7.3	9.8	1,192	6.6	8.9	-17.4

[1] For Iowans 12 years and older

[2] Values for Labor Day 1965 to Labor Day 1966

[3] Values for Labor Day 1969 to Labor Day 1970

[4] 1966 values are for "Driving for Pleasure" only

[5] 1966 values are for "Walking for Pleasure" only

probably account for these differences, including the following:

- Iowa has a much larger rural population.
- Iowa is more prosperous than many other rural states.
- All of the state is within a day's drive of at least one and probably several major cities (Chicago, Twin Cities, Kansas City, St. Louis, Omaha), resulting in business and recreational opportunities not available to residents of other states.
- The majority of the state's population is of German or Scandinavian stock, who apparently believe more strongly in the traditional "work ethnic" principle.

Planners throughout Iowa are now using the participation data as part of the input needed to set more realistic guidelines for future acquisition and development purposes.

Special Development Opportunities

Special development opportunities are ultimately easier to illustrate in specific terms than to precisely define as a concept. They are special largely in terms of scale, uniqueness of the resources involved, and appeal to potential visitors beyond the immediate geographic area. In more practical terms, special development opportunities are tied to significant areas of publicly-owned land resources or unique landscape or cultural:historic features. The perfect case would be an area with interesting landscape, unique cultural:historic features, and a substantial area of public land to serve as a base for recreational development. Needless to say, most special opportunities rest on one or two of these factors, not a perfect score on all three.

No perfect delineation of Iowa's special development opportunities is possible with a definition this imprecise. It seems apparent to us, however, that there are at least four rather special opportunities. The first--and perhaps ultimately most important--occurs in northeast Iowa and adjacent states in the Upper Mississippi Valley. This is an opportunity of major regional significance based on unusually attractive natural features, proximity to large population, and critical decisions to be made. We will return to this opportunity in a moment.

A second special opportunity occurs in southeast Iowa based on a combination of natural and cultural features. The natural features include the Mississippi River and its associated large-scale scenic and wildlife resources, and several areas of public land some distance from the river. These include Shimek State Forest and Lacey-Keosauqua State Park. A somewhat similar opportunity occurs in the Missouri Valley. It centers on opportunities to observe large flocks of migratory waterfowl that already attract substantial numbers of visitors despite minimal development of facilities. Returning to the Mississippi, both Shimek Forest and Lacey-Keosauqua Park provide striking and accessible landscape contrast. For example, Shimek Forest contains sizeable areas of evergreen forest plantations (including some along a major highway) which contrast sharply with surrounding areas. They are likely to be many times more valuable for scenic and recreational purposes than for the timber for which they were originally planted. These areas provide contrast of a sort that is valuable in an otherwise relatively homogeneous landscape. Historic:cultural features of this special opportunity center on the historic Mormon settlement at Nauvoo, Ill. (which is being redeveloped in a major way by the Church of the Latter Day Saints), historic but neglected communities along the lower Des Moines River in Iowa, and interesting communities such as Hannibal further down the Mississippi River. A unifying thread and pattern are needed to take advantage of this special opportunity. With such a thread and pattern, a significant and unified recreation opportunity could be created stretching along the Mississippi and Des Moines River almost from St. Louis to Des Moines. A portion of this opportunity will be carried forward by the proposed Upper Mississippi River National Recreation Area. But another at least equally significant portion will require purposeful action by Iowans.

The Amana Colonies typify a third special development opportunity. This opportunity is based primarily on historic:cultural features of kinds that seem to be of increasing interest to a widening segment of our national population. In a sense, the Amana Colonies and the proposed Living History Farms are two facets of the same opportunity--one natural, the other artificial. Other related examples include the annual Tulip Festival at Pella and the relatively new Covered Bridge Festival in south central Iowa. Location of the Amana Colonies near a major cross-country transportation route is likely to hasten the development process as planned by Howard Johnson and the Holiday Inns, if by no one else. Effective public planning will be critically important if results satisfactory to perceptive users and neighbors, as well as entrepreneurs, are to be achieved.

The new lakes that either have been created or are in various stages of construction or planning in central and south central Iowa are a fourth special development opportunity--and a distinctly controversial one. This is perhaps the opportunity least rooted in unusual natural and historic:cultural features, and hence most "portable". There are important limits on the number of artificial lakes that can be reasonably created, however, if both economic and ecologic costs are fully taken into account.

Lake Okoboji and nearby waters are well-known but do not seem to us to be a special development opportunity at this time. The development process there has gone a long way--quite possibly too far. Pollution control measures to absorb and tame the present level of development are a primary need.

We would now like to return to Northeast Iowa and the Upper Mississippi

Valley. We do this to more fully illustrate special development opportunities and to point out the kinds of decisions that are critical if such opportunities are to be successfully developed. There are numerous ways in which the process can go wrong toward "quick buck" arrangements that are often unsuccessful in an immediate sense, and worse over longer periods.

Northeast Iowa is a striking example of special development opportunities. It is part of a four or five state area in the Upper Mississippi Valley, involving portions of Iowa, Illinois, Missouri, Wisconsi and Minnesota. The area could be defined most narrowly only from Dubuque northward to the Minnesota boundary, or most broadly from Minneapolis-St. Paul southward nearly to St. Louis. A relatively broad definition centering on that portion of the Valley from LaCrosse southward to Davenport is useful for present purposes.

This area features high bluffs providing broad views over the Mississippi River. It also features attractive rolling country with farm and forest intermixed in complex pattern. Caves; several attractive streams, including the proposed Upper Iowa "scenic river"; and a variety of cultural features related to early exploration and settlement also are present.

The Upper Mississippi Valley is close to several major centers of population. The Valley, itself, contains several relatively large population centers such as the "Quad Cities". A quite densely populated area in northern Illinois and adjacent southern Wisconsin is also within 50 to 100 miles of the Upper Mississippi, as are several population centers in Minnesota and Iowa. Dubuque (an important center in the Upper Mississippi Valley) is essentially the same distance from Chicago as the intensively developed "Dells" area on the Wisconsin River in the central portion of that state.

Changes in transportation systems may alter the relationship of the Upper Mississippi Valley to these major centers of population. Construction of only 70 miles of additional freeway between Dubuque and Rockford might be expected to effectively move the Upper Mississippi Valley much closer to the very large population concentrated in the Chicago area. At the same time, reduction in air fares may bring Chicago and other urban centers closer to major recreational areas, such as the Colorado Rockies. So might other arrangements such as an automobile-carrying train like that now operating between metropolitan Washington and Florida. Therefore, probable changes in transportation systems are not a simple one-way matter. But the urban population centering in Chicago is so large that much greater recreational use of the Upper Mississippi Valley seems quite probable with foreseeable changes in the regional transportation system.

Major proposals have been advanced to take advantage of the attractive features of the Upper Mississippi Valley. An "Upper Mississippi Riverway

Compact" involving four states was proposed several years ago. It was approved by the legislatures of Iowa and Illinois and considered by the legislatures of Wisconsin and Minnesota. This compact would have provided for coordination in the development of the resources of the Upper Mississippi Valley. It would have placed considerable emphasis on zoning and related measures to develop recreational features of the Valley in an attractive manner. More recently, federal action has augmented that by the bills before Congress to authorize creation of a national recreation area in the Upper Mississippi Valley. Hearings are currently being held by the House of Representatives Committee on Interior and Insular Affairs. Knowledgeable sources in the Iowa congressional delegation believe that prospects of passage are quite good. These measures--both federal and state--are based on a common recognition that the area is attractive, is at present little developed, and is at a fairly critical decision point. The choice is between development in a systematic and attractive manner and relatively haphazard development. The area is ill-prepared for the use and development pressures that can readily occur. A single alarmingly simple example illustrates the point. The Iowa county with the most attractive forest and recreation resources, which constitutes a base for recreational development, is one of only six counties in the entire state that does not even have a County Conservation Board. This is an extreme case but makes it obvious that a stronger framework for planning is urgently needed.

Important Development Decisions

There are important decisions that must be made if the substantial potential of the Upper Mississippi Valley (and other special areas) for outdoor recreation is to be made available in a permanently attractive manner. Public agencies will make some decisions. Private firms will make others. Some agencies are directly focused on outdoor recreation planning; others primarily focused elsewhere. Some have interests of regional scope, others focus on a particular county, others focus on still smaller localities. Some are primarily located in Iowa. Others are in adjoining Illinois, Wisconsin, and Minnesota. The pattern of responsibility, influence, and interrelationships is unusually complex because of this number of agencies and firms.

The major decisions facing state and regional agencies (for example, the Iowa Conservation Commission) are on two levels. The first level involves relatively large-scale choices; the second, smaller-scale choices about methods for implementing decisions made at the first level. The large-scale decisions involve choices between various patterns and combinations of major steps to increase and protect the attractiveness of the Upper Mississippi Valley. These include measures to:

- maintain and enhance the attractive appearance of this region.
- develop and maintain public access to particularly attractive areas.
- encourage private development of improved tourist, lodging, and

dining accomodations.

- encourage predominantly private development of the historic features of the region.
- provide additional planning assistance for development of private outdoor recreation enterprises.

Choice of the best pattern and combination of these measures would require more detailed discussion and analysis than we can undertake here. It seems, however, that all of these measures are important parts of any ultimately successful plan for major recreational development in the Upper Mississippi Valley. Basically, the same point could also be made concerning the other special development opportunities, although specifics would differ. But the measures to maintain and enhance attractive appearance and to develop and maintain public access must come first, with the others following. These first measures, if taken in time on an adequate scale, will protect and enhance the base for development. The other measures can then effectively build upon this base. Taken alone without the first measures, these other measures are not likely to be particularly successful.

Second-level decisions concern alternative methods for implementing particular measures. Those designed to maintain and enhance attractive appearance center to a considerable extent on land-use guides and controls. Public acquisition, purchase of scenic easements, and zoning are alternative kinds of guides and controls. All play a part in concentrating and enhancing urban and commercial development in the region. The important choices concern the particular combinations of these guides and controls that will serve best in relation to cost in particular locations.

Public Access

Measures to develop and maintain public access first involve choices among geographic areas. It is vital that the most critical areas be selected first in order to use limited funds most effectively. Choices among kinds of facilities would also be necessary. The data on recreation-use patterns provide a substantial part of the basis for such decisions. In general, development of new facilities might follow patterns successfully used in the Yellow River State Forest near McGregor, but with modifications, to more directly take account of patterns of current participation and expected growth. These measures might also include development of special drives and parkways such as the Great River Road.

Tourist Facilities

Measures to encourage private development of improved lodging and dining facilities will be important in making the Upper Mississippi Valley and other areas of special opportunity available to visitors. These measures will involve choices among alternative locations and patterns, either dispersed or concentrated either at existing centers of development or in newly-developed centers. Measures for encouraging particularly carefully chosen patterns of development could and should include zoning and other land-use guides, various forms of tax abatement or reduction in selected areas (in our opinion), and finally, public development of certain key facilities around which private development might then occur.

Historic Features

The Upper Mississippi Valley is rich in history. Indian tribes over a long period occupied the area and left interesting relics of their activities, now interpreted for public enjoyment at Effigy Mounds National Monument administered by the National Park Service. The area was explored at an extremely early date by Father Marquette and other French explorers and was an important fur-trading area. It was settled by diverse and culturally-significant ethnic and religious groups who gave distinct and interesting character to many communities. River commerce, including both general shipping and movement of logs from the forests of Wisconsin to sawmills downstream, gave further character to the region.

Historic features have been developed modestly to date. More could be tastefully done. This would involve choices of alternative locations, kinds of development, and institutional arrangements. The area around the confluence of the Mississippi and Wisconsin Rivers has a particularly concentrated historic area. Therefore, a substantial part of the initial efforts might be focused there.

In terms of the type of development, it will be important to strike an appropriate balance between museum-type and architectural-and-environment-type attractions. The latter may play quite an important role. For example, potentially very attractive "Old Town" architectural development has been started at McGregor, Iowa, during the past three or four years. Only a few buildings have been refaced to date, but the effect is interesting. Carried forward on a more extensive scale, such architectural development might create an attractive and culturally-significant environment at this potential center of recreational activity. Such features might be expected to enhance and considerably deepen the experience of recreational visitors.

Choices among institutional arrangements first involve the roles of the public and private sectors and effective ties between them. Specific historic sites, especially those tied to natural resources, can in most cases be developed best as a direct public undertaking, and Effigy Mounds is an existing example. Many associated features, such as architectural features, can be primarily assigned to private development. Effective ties between the public and private sectors can encourage such development. For example, freezing of assessments for a stated number of years would be one specific device for encouraging particular kinds of private development. Such real estate tax treatment would recognize that actions taken by private citizens who redevelop their property in a particularly attractive manner create public benefits.

Planning Assistance

Additional planning assistance for development of private recreation enterprises will involve help in analyzing opportunities. This includes analysis of opportunities on which a particular developer might best concentrate his effort and analysis of the most successful patterns for developing particular kinds of opportunities in harmony with an overall plan. Important choices in providing such assistance involve the balance to be struck between business-oriented and resource-oriented planning assistance. Other choices involve the institutional methods for providing such assistance. The agricultural extension program is one well-known example of planning assistance for private resource developers. The Service Forestry Program of the Iowa Conservation Commission (including a modest program in some aspects of recreational planning) is a second. It is important to select a particular pattern of cooperation among these various agencies after careful consideration of the alternatives. We simply suggest that this consideration be carried out on a careful basis in order that assistance be made available on an expanded, more adequate scale, under appropriate institutional and organizational arrangements.

Further Research

We have discussed important development decisions specifically in terms of the Upper Mississippi Valley. This may well be the most important--and in some ways most neglected--special recreational development opportunity in the state. But many of the same points concerning important development decisions could also be made concerning other special opportunities.

These decisions will require an improved information base that is possible only through research planned on a systematic basis. We will conclude by suggesting several types of research that seem important. We do not claim to be comprehensive in this listing since many kinds of expertise will be needed, and some may not have occurred to us. But we believe the following are among the most important types of research which are needed:

a. Further research on recreation use-patterns and preferences to better identify the kinds of experiences and activities wanted by potential visitors. Major needs include (a) a series of projections over a period of time with correction factors for actual performance, (b) systematic study of intensity of preferences and substitutability of recreation activities to indicate the shifts that might occur with new types of recreational development, and (c) improved regional coordination of studies of use-patterns (e.g., potential Chicago and St. Louis visitors). Progress toward the first two of these three needs is currently being made.

b. Research on carrying-capacity of recreation sites and resource-management to enlarge such capacity. The major need is for a systematic method of assessing the combined effects of various types and amounts of use and types and intensities of management, on the durability and quality of sites of particular characteristics. This is important for guiding development into areas able to sustain it and for controlling developm and use at levels that can be sustained. Research of this type is under discussion with indications of strong interest by the Iowa Conservation Commission.

c. Research on institutional and legal devices to guide and control actual development of special opportunities. More sensitive and effective methods are needed for guiding private decisions into harmony with public plans. Possibilities to be developed might include new combinations of land-use controls, financial incentives and penalties, and carefully tested information programs concerning the consequences of alternative development plans.

d. A more systematic inventory of recreational development opportunities. Our listing of special development opportunities is an informed guess. A more systematic inventory is needed based on the factors investigated in the preceding items.

e. Systematic analysis of special opportunities on a regional basis. Such analysis would tie together all of these research elements. It would link (via systems models) likely external and internal developments and their effects on use of areas with recreational development opportunities, impacts of such use, and management and legal measures to cushion impact and enlarge capacity. Such a regional analysis is being discussed for the Upper Mississippi Valley. It will involve several areas of expertise. It would seem to be a pertinent example of rural development research and is also closely related to one of the categories of the RANN program of the National Science Foundation.

Summary

Iowa has greater potential for recreational development than is sometimes realized. Such development is an important aspect of a high-quality environment for living. While not a direct source of large-scale income and employment on a statewide basis, such an environment can be an important asset in attracting types of industries growing most rapidly in what has been described as our "post-industrial society".

In addition, there are several special development opportunities which involve portions of Iowa and several adjacent states. These opportunities center around various combinations of attractive natural landscapes and interesting historical and cultural features. These opportunities do involve appreciable income and employment potentials if carefully developed in a systematic and permanently attractive manner.

Careful planning, soon, is vital if such development is to be achieved. Lack of planning is likely to result in uncoordinated, unattractive development of little benefit to either developers or recreational visitors. Major decisions first concern measures to protect and enhance the attractive features of areas with special opportunities and then measures to guide both public and private development. More research is needed to provide the information base for more complete action in the future, although initial action should be undertaken now to prevent loss of the best opportunities.

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TIDES OF NATIONAL DEVELOPMENT: KING CANUTE AND THE RURAL-URBAN BALANCE

By Lauren Soth
Editor, Editorial Page
REGISTER and TRIBUNE
Des Moines, Iowa

"The Land Grant universities, in the name of the good of the Land Grant religious order, take what money they can get from whatever sources and use it the way those sources want it used. They justify misdirection of scientific resources on the ground that they must 'keep a staff together.' They must not offend their true allies in agri-business and the farm organizations who stand up for them in Congress and the legislatures to get money."

"Why is it that so few of the young people being educated in the agricultural sciences and in agricultural economics are enlisting in the service of the poor people in agriculture and in the environmental crusade?"

"Economics is the science of economizing on the use of scarce resources to maximize output of a desired product. I maintain that we have not been economizing when we do not include the costs to rural communities and to the large cities of denuding the countryside and of using the environment on a sustaining basis."

THEODORE W. SCHULTZ a couple decades ago invented an imaginative expression to dramatize an imaginative rural policy proposal. He advocated a program he called Homesteads in Reverse. Schultz suggested that the federal government offer farm families a cash payment to leave farming and help them get started in city life and non-farm work.

I have always thought that was a concept of real genius. The slogan Homesteads in Reverse gave a flash perception of the problem of too many people dependent on farming and conjured up the good image of the Homestead Program of the Nineteenth Century.

Americans are deeply and rightly proud of the homestead idea; it is one of the things we did as a young nation which seemed to epitomize our devotion to democracy and equal opportunity--our independence, our belief in the virtue of work, our determination to conquer the wilderness. By means of government incentives, we moved people onto the new lands, boosted the national economy and fostered better population distribution.

Ted Schultz asked, in effect, why not do this great thing again, only in the other direction? Why not use the powers of this people's government as we did once before to turn the tides of population movement, to plan a better future? This cannot be socialistic or unAmerican or subversive of free enterprise--it is true to the very soul of America.

Schultz was thinking two decades ago primarily of commercial agriculture's proclivity to over production. He even suggested that to be eligible for his proposed $5,000 subsidy for getting out of farming a family would have to give evidence that they had produced and sold at least $2,500 worth of farm products the preceding year. (Those figures, incidentally, remind us of the enormous changes in commercial agriculture in the last 20 years--and of the inflation.) Rural problems were seen then largely in terms of the commercial farm problem--too many people sharing the national farm income; farm surpluses; low prices of farm products.

Lately, racial tensions, crime, pollution, bad housing, poor transportation and other problems of the cities have stirred new thinking about the tides of population movement and of economic development. Now politicians are talking about reversing the homesteaders once again--back to the countryside, away from the corruption of urban life.

In writing this paper, I benefited from criticism and suggestions by Walter W. Wilcox and Robert K. Buck.

I

King Canute didn't have much luck trying to turn the tides, and our national experience shows that human tides are not easy to turn, either. The homestead policy was really just a new name with slightly more orderly administration and slightly bigger subsidies for a policy of populating the rural areas that began in 1776. It undoubtedly spurred the development of the continent, attracted people from America's eastern cities and from abroad. It worked.

But shortly after the Civil War and while the Homestead Program was in full flower, the nation began to carry out a parallel development policy which soon began to turn the tide back to the cities. This was the support of agricultural research and education, the policy of creating new technology and putting it to use rapidly. It was government run and government financed, and it was regarded as the essence of capitalistic free enterprise--and still is so regarded.

This public agricultural development policy probably has been the most popular and the most successful--in one sense--of any policy of social and economic development this country ever had. By comparison, the protective tariff and the antitrust laws and commissions have been puny affairs, indeed.

The Land Grant college, with its agricultural experiment station and extension service, has been superbly well financed. There might be some disagreement with that generality in these precincts. But I never heard of any enterprise, public or private, whose manager did not think it was underfed; I'll stand by that remark about public support for agricultural education. Agricultural research and extension have had no political enemies, only friends; really a unique political situation.

Urban people in America generally have been rural-minded, although farm people in their paranoid moods don't think so. The city people of this country know about the open countryside. They remember their own lives on the farm. They are highly mobile, with all their automobiles, and they drive regularly into rural areas. They believe the propaganda about the virtues of country life. They want to do something to help country people. That is why they have been ready to pitch in and pay taxes to support farm programs.

The generous public support for research and education and other governmental programs for agriculture has made these programs operate as Homesteads in Reverse, moving a great many people off the farms. Practically all this governmental activity in farming was intended to do the opposite. It aimed to keep people in farming. President Theodore Roosevelt's Country Life Commission early in the century upheld the values of rural living, continuing a political and governmental theme going back to Washington and Jefferson. The 4-H Clubs and the Future Farmers of America organization, developed to aid the agricultural education movement, have been tuned to the theme of the superiority of life in farming areas as compared with urban, industrial areas.

One of the driving forces of the American government since its beginning has been to make a new deal of farm life in the new world. The Founding Fathers and their successors in high government position have sought to make American agriculture a new kind of agriculture, in contrast with peasant farming in the rest of the world. Rural people were to be educated, have the privileges, the social status, the good things of life of city people.

This is not the time to go into the complicated reasons for America's agricultural development policy and the many motivations behind the policy. Let me digress for a moment, however, to point out that the motivations were not all noble.

In the last half of the Nineteenth Century, conservative business interests, alarmed by such farm radicals as James Baird Weaver of Iowa and William Jennings Bryan of Nebraska, wanted to pacify rural areas. Private and public funds were raised for rural education and increased farm productivity. To the rising industrial leaders of the country, and their political groupings, large expenditures for farm education and research were far better than radical Greenback money policies, inflation farm strikes and attacks on the railroads and the industrial trusts.

These business interests wanted more farm output and cheap food. They wanted cheap labor. A generous program of aid to agriculture contributed strongly to these ends.

Let us agree here that the main motives behind the Land Grant movement and the push for agricultural education were indeed noble and for the best ends of farm people and the nation. And it did make good economic development policy in the last half of the Nineteenth and the first half of the Twentieth Century.

But "the best laid schemes o' mice and men gang aft a-gley." The agricultural research and education policies and programs, which were deisgned to make rural life happy and raise the level of farmers to the levels of professional and business classes, actually have made rural life less attractive to many.

The heavy injection of new technology into agriculture and new capital to support the technology have created classes and levels in rural America. Instead of developing a classless rural society the programs have tended to create inequality where equality existed before.

Many of us can remember in our own personal family histories the high degree of equality in the early pioneer days of Iowa. Of course there were the rich and the poor, as always. However, I venture to say that if accurate statistics could be developed, we would find a much narrower range of income and wealth in rural Iowa in, say, 1870 than in 1970. There was a social opprobrium against land grabbing or undue increases in wealth. When the homesteads were being developed, farmers sometimes took the law into their own hands to prevent land grabbers or speculators from seizing large areas. There are many stories of early pioneers selling land at very low prices to entice other newcomers, so they would have neighbors. There was a kind of sharing the wealth which, I believe, was the mood of American rural development in those days.

Agricultural research and education through the federal and state governments, and supported by business interests, especially those connected with agriculture, has been geared to efficiency rather than to equality. In fact, it has been geared in many cases to favoritism for special groups. The better farmers were aided more and helped to become still farther advanced over those of lesser ability or lesser access to capital. Farmers who were conservative, not troublemakers, had advantages in getting aid from the colleges and the USDA.

II

In our agricultural development policy and farm support policies, we have found our goals to be in conflict. The main goal has been to create a pleasant, advanced, high-income rural life for many, to give farm people the same standard and level of living as city people. Another goal, as well as a means to the main goal, has been to raise the educational level and increase the productivity of people in farming. But the results of pursuing the latter have tended, increasingly, to be the opposite of the former.

Let me restate the main goal: a farm citizenry of independence, free, land owning, bulwark of democracy--equal in every way with the non-farming classes in worldly goods and cultural advantages--but retaining the special virtues of life close to God and nature in the country.

Results: depletion of farm population and rural culture being replaced by urban culture in the countryside.

Even the goal of equality of income has not been reached. Farm people on the average have gained on city people in economic income, so far as the estimates of the federal government show. But these averages disguise a widening disparity among farmers. The Department of Agriculture studies have shown that a small, top group of farm operators has indeed reached "parity" of income with non-farm people. But at least two-thirds of the farming population lag behind.

The customary way to compare the well-being of rural and non-rural people is to use the per capita income averages computed by the Department of Commerce and the Department of Agriculture. This method of comparison has been used to justify farm programs for many years, and the current secretary of agriculture has been doing it again. These average figures are deceptive, because of the great diversity in the farming population, ranging from full commercial farmers down to various kinds of part-time farmers, residential farmers and the poverty group. They hide the fact that the people living on the best farms, say 800,000 leading commercial farm families, are realizing full parity of income compared with city people.

If you look at this group alone, you can conclude that governmental activity has been remarkably successful in producing well-being for the farming population. The trouble is that the rural population as a whole has been shorted.

A new study by the Economic Research Service of USDA for the Senate Committee on Government Operations makes this clear. The researchers examined 252 federal programs, comprising 75 percent of all federal outlays, to see where the money flowed. Non-metropolitan areas have received about 27 percent of all outlays, though they account for 30 percent of the total population. More important than this small difference, however, is the fact that rural areas fall behind in programs dealing with human welfare.

Per capita federal welfare payments have been roughly four times greater in metropolitan than in non-metropolitan counties. Per capita outlays for health services in recent years were four times greater in metropolitan counties, and per capita federal outlays for manpower training and development were three times greater in metropolitan counties. Despite a greater incidence of substandard housing in non-metropolitan counties per capita federal housing outlays were only half as large in non-metropolitan counties as in the metropolitan counties.

Though rural areas account for about half of all children between the ages of six to 17 in families with income below the poverty level, these areas received only 41 percent of the outlays for the special education programs for such children. These areas received only 36 percent of the Head Start and Head Start Follow-Through funds, 24 percent of the Aid to Families with Dependent Children funds and 20 percent of all child welfare service funds.

It is, of course, true that federal spending for the agricultural business and for natural resources is concentrated in rural counties, but it also is concentrated in the hands of the well-to-do farm families. It is fair to say, I think, that in spite of the great drive in America for agricultural education, rural areas as a whole have not benefitted from public education as much as city areas. The largest portion of the farming population has not been able to profit from the new technology, the services of the Land Grant colleges and, on the whole, not from the various agricultural subsidies, credit aids and other programs designed to help farming people.

Many people leaving farms have adjusted well, but they have had to shift for themselves. There have been few Homesteads-in-Reverse payments. They have had to bear much of the social cost of the government-sponsored technological revolution in agriculture.

The national population as a whole has received the major benefit from agricultural programs of all kinds, through lower food costs and through cheap labor made available from the farming areas.

The benefit to society as a whole no doubt justifies all the public effort in agricultural education and research. What is not justifiable is the fact that the largest share of the farming population itself and of people in small towns in rural areas have not been helped and even have suffered from this program of agricultural development.

What also is not justified is the hypocrisy of the agricultural establishment in promoting new technology. The sellers of the new technology and the new materials to go with it continue to tell both farming and non-farming public that their efforts are for the farmers benefit.

In the beginning, there was no hypocrisy. But in the last 35 yea or so, there has been no doubt about the incidence of the farm programs. Yet our Land Grant universities continue to talk the old line. This is the thrust of their propaganda and of the USDA propaganda. I am not revealing anything new. We all know this is true and have known it for many years. I don't want to be misunderstood as accusing the agricultural establishment, or the professional fraternity of agriculturists, of deliberately distorting the various federal and state programs for farm people. In a sense, they are victims of the system, too. They are, each of them in their professional capacities, doing what the public through government has directed them to do.

Each agricultural specialty--and the division of labor becomes more refined as the economy becomes more complex--goes ahead doing its job well. Each specialist can comfort himself that it is not his responsibility to consider the total consequences. He tries to enhance his own field, leaving to some higher authority the setting of priorities and of proportions.

At the top, even, in Congress and the Executive branch, who takes the overview? Who really sees the big picture? Like Tolstoy's generals in War and Peace, the leaders pretend they know the causes and effects, but in actuality, the machine of technology rolls on unguided and uncontrolled. The individual person--scientist, technologist, farmer, agri-businessman, rural dweller--is a robot, unable to do anything but go along.

The alienated man of modern society is not just an urban industrial worker, a spoke in a cog of a big corporation or a government bureaucrat. He may also be a farmer, professional agriculturist or other rural denizen who feels unable to act independently and who is driven by forces he does not comprehend.

No group of professionals has been more dedicated or upheld a higher code of honor than the agricultural professionals--and I include those in agri-business, the ag colleges, the farm organizations, the farm co-ops and the USDA. But, like any such company of professionals, they tend to become more concerned with their professions and their institutions than with the mass of people they are trying to serve.

The agricultural establishment, mainly the Land Grant ag colleges and the Soil Conservation Service, have performed splendidly in teaching the best farmers how to control soil erosion and hold water on the land. But these agencies have provided little or no leadership for agriculture or for the country as a whole in protecting the environment.

It is regrettable that now that non-agricultural scientists have begun to alert the country about the dangers of environmental pollution, some of the agricultural fraternity even resist the movement and pooh-pooh the danger. Have they become so accustomed to acting as servants for the upper crust of commercial agriculture that they are unable to respond to the demands of environmental protection now? As in any popular movement, there is exaggeration, emotionalism and distortion in the environmental movement. But it is wrong to ignore it.

Why is it that so few of the young people being educated in the agricultural sciences and in agricultural economics are enlisting in the service of the poor people in agriculture and in the environmental crusade? Many young lawyers these days are going into public service law offices, such as the Nader group. But I have not heard of any agricultural economists, agronomists, animal nutritionists or others in the agricultural disciplines who are similarly trying to move into areas of social need. Why is this? Is it the atmosphere of the Land Grant agricultural college or what?

Any professional establishment stands against outside critics for the good of the establishment. The Land Grant universities, in the name of the good of the Land Grant religious order*, take what money they can get from whatever sources and use it the way those sources want it used. They justify misdirection of scientific resources on the ground that they must "keep a staff together." They must not offend their true allies in agri-business and the farm organizations who stand up for them in Congress and the legislatures to get money.

It is high time for us to examine and reexamine the consequences of this agricultural education, research, farm-aid machine and what it is doing to the ideals of equality and fairness which were the basis for starting the whole ball rolling.

III

Now there is much talk of reversing the homestead policy once again, as I said earlier, to revert to the original homestead policy--repopulate the countryside, spread out from the congested cities. Get away from the riot-torn, corrupt, crime-ridden cities and establish a better rural-urban balance.

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*The Land Grant system is not unique in this. America as a whole has made a religious faith of science and technology as the way to the good life.

That being the new goal, what does it mean so far as agricultural education and other agricultural aid programs are concerned?

Another recent ERS study, titled "Rural-Urban Population, Income and Employment: A Simulation of Alternative Futures," projects present trends of population and concludes that--surprise!--if more people are to be kept in rural areas, more jobs are needed in those areas. The researcher said, "A virtual doubling of the rural economy's capacity to absorb idle workers would be necessary to bring rural and urban per capita incomes...into balance by the year 2000."

One of the conventional proposals for rural development is building employment centers in key cities for commuting people from farms and small towns nearby. However, there are large areas of rural America where little commuting takes place and where little is likely. There is not a single commuter county* in the states of North Dakota, Montana, Wyoming, Nevada and Arizona. South Dakota has only two and Nebraska only three. Unpublished data calculated by the Economic Research Service indicate that there are about 1,700 counties in the United States beyond commuting range of urban employment centers.

In 1970, the population of the country was just over 203 million. About 82 percent of the population lived in 800 principal employment center counties, and another 6 percent lived in 570 commuter counties. The 1,700 counties beyond commuting range had a population of 24 million or 12 percent of the U.S. total. These counties with 12 percent of the nation's population had 24 percent of the nation's poverty and 21 percent of the nation's overcrowded or inadequate housing, as measured by the federal yardsticks.

The conclusion which I draw from this is that commuting to work in urban employment centers is not a feasible option in a great many areas and not as feasible as had been supposed by many students of rural development. The ERS study indicates a considerably larger share of the total population beyond commuting range (12 percent) than had been estimated earlier.

Obviously, the types of programs that are most needed in these areas are not those concentrating on "growth centers," because these areas don't have any centers to build up. In these noncommuting counties, the community structure is falling apart, and new governmental institutions must be developed.

In short, establishing new non-farm industry in rural areas is far from a complete answer for rural development.

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*Defined as a county where 10 percent or more of the workers commuted to jobs in urban employment centers.

Should we not consider other possibilities, as well? Perhaps we should consider that our allocation of education and research funds has been distorted. There is nothing sacred about the proportions of public funds going into agricultural research and education. What about a deliberate slow-down in new farming technology? This would be a policy of de-emphasizing labor-saving technology and deliberately encouraging more use of labor in farming--with emphasis on quality of production and the preservation of the natural environment.

That is heresy, I know. It is "regressive." It would raise the cost of food for consumers; it would reduce labor efficiency. But it would reverse the Homesteads in Reverse policy. It would increase jobs in rural areas. It would keep more people in the country.

All our measures for rural development will be a shambles if we also continue our crash programs for developing and disseminating new technology. In another two decades, at the rate we are going now, there will be only 400 or 500 farms in each Iowa county. You can't reverse the tides of population under those circumstances.

Perhaps we should consider the thought that the "overhead professional establishment" of our agricultural industry is overgrown. Instead of trying to expand this area continually, while the farming population is being depleted, perhaps we should think about holding back. Instead of asking for more money for agricultural programs of various kinds, most of which seem to go to a fringe of the best farmers, perhaps we should talk about reversing the flow of federal funds for other purposes--elementary education, general education, welfare programs, housing for both farm and non-farm people in rural areas. Perhaps we need more research in education in non-farm technology applicable to thinly populated areas, along with much greater emphasis on the social sciences and economic planning for these areas.

Let us also consider whether strict anti-pollution and environmental protection efforts would help decentralize the cities. Instead of plowing more funds into programs that increase agricultural production and increase efficiency of labor in agriculture, why not emphasize development of a self-sustaining agriculture with tight controls over the uses of our natural resources? Taxation of chemicals used in farming could be a powerful instrument here. Earl Heady's new computer model for land and water use will surely be a great contribution to knowledge here.

Finally, perhaps we should consider the question of size of farming and non-farming enterprises. So long as our national goal has been to increase efficiency of labor at all costs, you could not make a convincing argument for limits on farm size or strict anti-trust enforcement. But now that we are beginning to think more of the wastage of the environment and of the problem of population congestion, maybe it is time to think about something other than short-run economic efficiency in the ordering of our economic and social system.

Some economists may protest that these suggestions are uneconomic--and that, everybody knows, is a heinous crime. But I will dispute that. Economics is the science of economizing on the use of scarce resources to maximize output of a desired product. I maintain that we have not been economizing when we do not include the costs to rural communities and to the large cities of denuding the countryside and of using the environment on a sustaining basis. I also maintain that the desired product is not necessarily just money income or consumable goods in the conventional sense. Some other "products" are gaining higher status, and economists must look to them.

This is really radical doctrine. At least it sounds radical to all of us who have been brought up on the idea of efficiency, efficiency, efficiency, more output per man. But is it so radical? If the kinds of technology we emphasize now are not producing the results we want, then the emphasis can be changed--assuming we are the masters of our fate. I so assume.

DESIGNING FUNCTIONAL RURAL COMMUNITIES FOR MODERN LIVING AND PRODUCTION

By Burl A. Parks
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"That Iowa has too many towns is no secret. Those who deal even remotely with the social, economic and community problems of the state generally agree with this theory."

"Before any efforts to aid rural communities can be successful, there must be a policy, supported by sound and factual data, that identifies viable rural communities. To do otherwise will waste countless dollars and thousands of hours of effort."

"Unfortunately, the development of communities occurred without direction and with few regulations to guide their growth. More than three-fourths of the life of nearly every community has been without planning and regulation and in all cases encompassed the formative years."

SOME WEEKS AGO I agreed to prepare and present this paper. Since then I have realized that this simple decision may well have been the gravest miscalculation of judgment I have ever committed. Literally, hundreds of solutions, problems, laws, land-use situations, pedestrians, cars, farm machinery, shoppers, and countless rural and urban jumbles have danced through my mind.

I have reached several unsteady conclusions about the direction this paper should take. The conclusion which persistently returns is that there is no way of fulfilling the requirements of the assignment and that this paper should end at the next period! I shall proceed, however, to the very heart of the matter with all of the strength and direction exhibited in the flight of a butterfly.

The most distracting influence on attempts to suggest sound and workable solutions for viable rural communities is probably the existing situation of some 950 incorporated towns in Iowa, which averages out to about 10 towns per county.

We do not often think about these towns, however, in the context of their worth to people and their necessity to exist. All of these towns, with few exceptions, were born of a need--to serve the needs of society at the time of their birth. Society and technology have changed, however, creating a new environment within which the need for towns should be judged.

In preparing this paper I chanced upon a piece of information no one has previously discovered, and I hereby lay claim to its discovery. "Iowa counties apparently were laid out at their present size because of the distance a man could travel by horse and wagon in one day." (The subsequent use of this statement should carry a notation properly crediting it to me.)

In a like manner, many of Iowa's small towns were established as convenient service centers for their customers in the surrounding farm land. They could be favorably compared with our modern concept of a neighborhood shopping center or convenience center. These are centers that the Urban Land Institute describes as follows:

> "This is a center where people go to buy their food, pick up dry cleaning, have their shoes re-soled or gas the car. As a bare minimum, it takes 1,000 families to support a neighborhood convenience center." (One thousand families are equal to 3,000 to 3,500 people.)

Research by the Urban Land Institute further indicated that the average convenience center serves 7,500 to 20,000 people within a six-minute driving time and caters to walk-in trade. The average building area is 40,000 sq. ft. with buildings varying from 30,000 sq. ft. to 75,000 sq. ft.

Comparing this information to Iowa's counties, only 37 counties exceed 20,000 population. This means that from the standpoint of population, only one town or shopping facility is needed to serve each of the other 62 counties. A complicating factor, of course, is the matter of distance, but even this is not an insolvable problem. Most counties are 24 miles square. If the convenience center is located in the center of the county, there would be only 10 to 15 minutes driving time to the farthest extremes of the county.

To put this aspect in perspective, an Iowa county has been selected for comparison purposes. Calhoun County and the Fort Dodge State Administrative District will be used.

Calhoun County had a 1970 population of 14,287 people and 11 incorporated towns within its borders. One other town is partially in the county, but the majority of its population is in Sac County. Since a neighborhood convenience center serves up to 20,000 people, it is apparent that one town could replace the 11 towns the county now has. The county is basically square--24 miles in each direction. The top tier of townships, however, is offset 3 miles to the west.

Plate 1 shows the county with all of its existing towns. Each town is surrounded by a circle* representing a six-minute driving time from each town which should include all customers who might patronize a convenience center.

On Plate 1 (all plates are at end of paper), Jolley has a 1970 population of 112 people, or about 30 families. In addition, there are 1,000 people or about 300 families living within a six-minute driving distance of the town. However, the six-minute driving distance of four other towns encroach on the driving circle around Jolley. Even worse, all four of the other towns are larger than Jolley.

Plate 2 shows a circle around Rockwell City representing a 15-minute driving time. As can be seen, the 15-minute circle embraces nearly all of Calhoun County. It is recognized that 15 minutes exceeds the five-

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*Previous studies prepared by Karl Fox, Professor of Economics, Iowa State University, have clearly shown that the driving time from any given point in Iowa would more nearly produce a square rather than a circle. This, of course, is due to the road system we have in Iowa, and I agree in general with this theory. In reality, however, the pattern produced by actually driving the roads would produce neither a square nor a circle. Rather it would result in an irregular-shaped pattern caused by a multitude of factors such as road conditions, type of pavement, number of lanes, stop signs, and traffic volume. I used circles because it is the quickest method of drawing the maps in this report.

I should also point out that it is not certain that a motorist could average 60 miles-per-hour on the road system surrounding each town. This

(footnote continued on next page)

to-six-minute limit that the Urban Land Institute says is the farthest people will drive to a convenience center. On the other hand, the research of the Institute is totally oriented to urban situations with dense development. It is reasonable to conclude that time, distance, and density might need to be considered as equal factors in order to provide both acceptable convenience and supporting population for rural convenience centers.

Further consideration might be given to county service centers as the next step up in shopping center types. The Urban Land Institute defines the next larger center as a Community Center. Such a center has a junior department store or variety store as its major tenant instead of a supermarket, as is the case of the Neighborhood Center.

Furthermore, the Community Center sells soft lines (clothing, wearing apparel, etc.) and hard lines (hardware, appliances, etc.) in addition to convenience goods. It also provides more variety and depth of merchandise.

Such a center is more descriptive of the kinds of services found in most county seat towns and would more nearly meet the needs of a countywide population. The Urban Land Institute, however, states that it requires 20,000 to 100,000 people to support such a center and this number of people is found in few of Iowa's counties.

That Iowa has too many towns is no secret. Those who deal even remotely with the social, economic, and community problems of the state generally agree with this theory. In spite of its general acceptance, there have been no efforts to reduce the number of towns. This is understandable because it poses so many problems with no apparent solutions.

Most prevalent is the remaining economic value in buildings and other improvements. No one is willing to give up what value remains in a house or store even though he no longer lives in the community and has no desire to return. Another reason is that most communities cling to a strong feeling of identity that they wish to maintain. This was adequately demonstrated during the state's school reorganization process.

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fact could greatly reduce the size of the circle shown or at least make noticeable changes in its shape. Even so, it is quite obvious that serious overlapping would result in the trade territory of each town.

Many other factors would also effect the extent of overlapping: for example, the extent and quality of merchandise and services or the proximity to larger towns or better travel routes. In any event, these detailed studies would probably do little to alter the primary thrust of this part of the paper.

In addition, there are hundreds of other hazy situations created by laws, social norms and economics. Another important consideration arises each time anything is said about "rural community development." National and state concerns and programs cause many floundering small communities to hang on in the hope that such programs will somehow save them.

Before any efforts to aid rural communities can be successful, there must be a policy, supported by sound and factual data, that identifies viable rural communities. To do otherwise will waste countless dollars and thousands of hours of effort.

It is recognized that there are other reasons for the existence of communities than simply shopping centers. One example of such a community exists a few miles west of Lake City on Highway 175. Lakeview is on a lake and has tourist and vacation activity as a means of support.

It can be said with little fear of contradiction that Iowa has far more towns than it needs. In fact, a detailed study researching the need for towns may indicate that as many as 75% of our existing towns are neither needed nor should be retained as separate governmental entities.

If we accept the findings of the Urban Land Institute identifying the amount of population required to support shopping centers and if we agree that there is an acceptable comparison between towns and shopping centers, we have a measuring stick to evaluate our Iowa situation.

For example, the 1970 census indicates that Iowa has 954 incorporated places and that the state has a total population of 2,824,376. Simple arithmetic shows that there is slightly more than 2,800 persons per town. This falls short of the bare minimum of 3,000 persons required to support even the smallest shopping centers.

The problem is much greater for hundreds of Iowa towns when we begin to consider the size of towns and their shopping or trade area. Further problems arise when the distribution of population is taken into account.

Calhoun County, with a population of 14,287 and 12 towns, has only 1,190 persons per town. The problem is further complicated by the fact that Fort Dodge is only 24 miles from the center of Calhoun County and offers a much greater choice of goods and services (Plate 3).

Existing Towns

This paper is to deal with designing rural communities, and so far we have not talked about design. It is necessary, however, to consider the existing situation if we are to design and solve problems.

Since we have hundreds of existing towns, we should investigate the possibility of making use of the existing investment. A happy situation arises here because many small towns exhibit a certain degree of good design. By happen-stance, the structural arrangement of small-town America has many of the ingredients of today's well-designed shopping center.

If we follow the design evolution of our modern shopping center, we can identify the good things of existing main streets. With the advent of the automobile and the increase in people and buying power, new retail establishments began to locate at the edge of town. Since customers had to park somewhere, buildings were simply set back from the street far enough to let a car pull in (Plate 4).

As business increased, more parking was needed; buildings were simply placed farther back. As additional stores were built, parking areas were shared (Plate 5). To create more esthetic appearances, newer installations planted a few trees. And, as traffic became a problem, government began to regulate entrances and exits (Plate 6).

As outlying shopping areas became more popular, the convenience of parking became a problem. Cars parked to the outer extremes of the parking area were as far from the stores as they would have been if they had gone downtown. As a result, "L" and "U" shaped building groups were developed (Plate 7).

The final, and more modern, design of shopping centers recognized that stores would be more convenient to motorists if the buildings were in the middle of the parking area. As a result, the shopping mall was developed with parking surrounding the stores. Furthermore, the mall could be covered and heated to protect shoppers from inclement weather conditions (Plate 8).

In comparing the modern shopping mall with downtown rural Iowa we find the elements of the modern shopping mall present in main streets that were laid out a hundred years ago (Plate 9). This situation is being recognized by many communities. They are closing main streets and providing parking at the rear of stores. Merchants respond by remodeling the rear of the store for a main entrance (Plate 10).

It is apparent that many small towns can be converted to modern shopping malls with relative ease. It remains, however, to determine which communities are the logical ones to receive this treatment. Since every town will have their own reasons and evidence to support their position, a broad-based study is needed to identify towns worth saving.

New Towns

Designing new communities and remodeling of old communities, of course, requires that consideration be given to elements other than main street. Residential areas, recreation, public and semi-public land uses, transportation and traffic, and industry and wholesaling must be considered in detail if we are to produce a workable community.

Unfortunately, the development of communities occurred without direction and with few regulations to guide their growth. More than three-fourths of the life of nearly every community has been without planning and regulation and in all cases encompassed the formative years. The difficult problems of urban planning are not in the new additions to the community but in the correction of past mistakes.

Urban planning has developed in recent years with slow acceptance until the end of World War II. Planning has since spread rapidly across the nation and has developed into a reasonably refined profession.

Regardless of the ability of planners from all disciplines, we still face tremendous problems of planning implementation. Financing planning proposals always is one of our most imposing problems, but far more important than funding is the individual rights which go hand-in-hand with our free society. Constant efforts to avoid conformance with community plans are with every community. These efforts are fostered by greed and desires to be independent and individualistic.

We have the ability to design workable and pleasant communities for specific purposes and numbers of people, but we have no means of establishing the limits within which these communities shall exist. For example, we can design a functional community for 5,000 people, 10,000 people or any number. We cannot, however, keep people from moving into the community nor can we keep them from moving out. We can design housing areas in an industrial district so that workers need not drive great distances to work. We cannot, however, require the worker to live in the housing district nor can we keep him from moving to another location. No matter how well we plan, we do not have adequate implementation tools.

A review of land-use statistics indicates that a community of 5,000 people can be adequately accommodated in an area of 575 acres. This is just short of one square mile. The community would not be crowded and, in fact, would be less crowded than most existing urban developments. Each resident would have 10,000 sq. ft. of area in his lot (80 x 125 feet) with minimum requirements for recreation, streets, public and semi-public uses, commerce, and industry included in this figure.

Even though one square mile is an adequate area for a community of 5,000 people, we find that most towns far exceed this area. For example, Rockwell City, with a 1970 population of 2,396, has 4 square miles within its limits and Lohrville (a 1970 population of 553) also occupies 4 square miles. In addition to this wasteful and unplanned use of space, nearly every town has a ring of non-farm homes surrounding it with varying degrees of density.

Somehow, we allude to a person's right to build an urban residence beyond the limit of urban services. We overlook the effect of this practice on our environment, and we overlook the fact that this practice permits some to escape the responsibility of bearing a fair share of the cost of urban services they all use.

If we could adequately control the future of towns, we could plan for economic, efficient, and functional towns for rural America. Many of the characteristics of existing towns would undoubtedly show up. For example, there would be a central core of commercial and other services. There would be a recognizable industrial and wholesale district. There would be schools, recreation and other public services.

The difference would be that all such uses would be planned in relation to all other uses. We could plan for the separation of vehicular and pedestrian traffic. We could locate all industrial uses so that prevailing winds would carry smoke and odors away from town. We could design public facilities and services to be of highest convenience. A pictoral model might look something like that shown on Plate 11.

A thorough economic study of demands for goods could determine the make-up of the retailing and wholesaling outlets for each of the state's 16 districts and the sub-areas within each district.

Pattern of Towns in Rural Iowa

There is also a need to assess the state situation to determine a pattern of towns and to define their function. This might be done by state administrative districts. A method for this approach is shown on Plate 12. The pattern should not be construed as a recommendation. Much more information is needed before final conclusions can be reached.

As a beginning, we might consider each area on the following basis: First, each district would probably need a Regional Center. This center, in accordance with the Urban Land Institute, requires 100,000 to 250,000 people to support it. Located strategically around the regional center, possibly in each county at the location of the county seat, would be a Community Center (requiring 20,000 to 100,000 people for support). Surrounding each Community Center might be 2 to 4 Convenience Centers (requiring 7,500 to 20,000 people for support - bare minimum of 3,000).

Another problem which plagues all planners and all communities is that the structure of local government simply cannot cope with today's problems of urban and rural America. The automobile has caused urban development to spill-over into rural areas with resulting problems of pollution, waste, and environmental depreciation.

Had our forefathers been able to foresee these problems, there is little doubt that provisions would have been made whereby urban development would always be tended by urban government. For example, provisions might have been made to require that all land reaching a certain degree of urban development would automatically fall under the jurisdiction of the adjacent cities and towns.

The logic of devising county government to provide less government in sparsely settled rural areas and city government to tend to the dense development of urban areas no longer exists. We need to erase many local governmental boundary lines and re-structure local government to fit today's needs.

PLATE #1

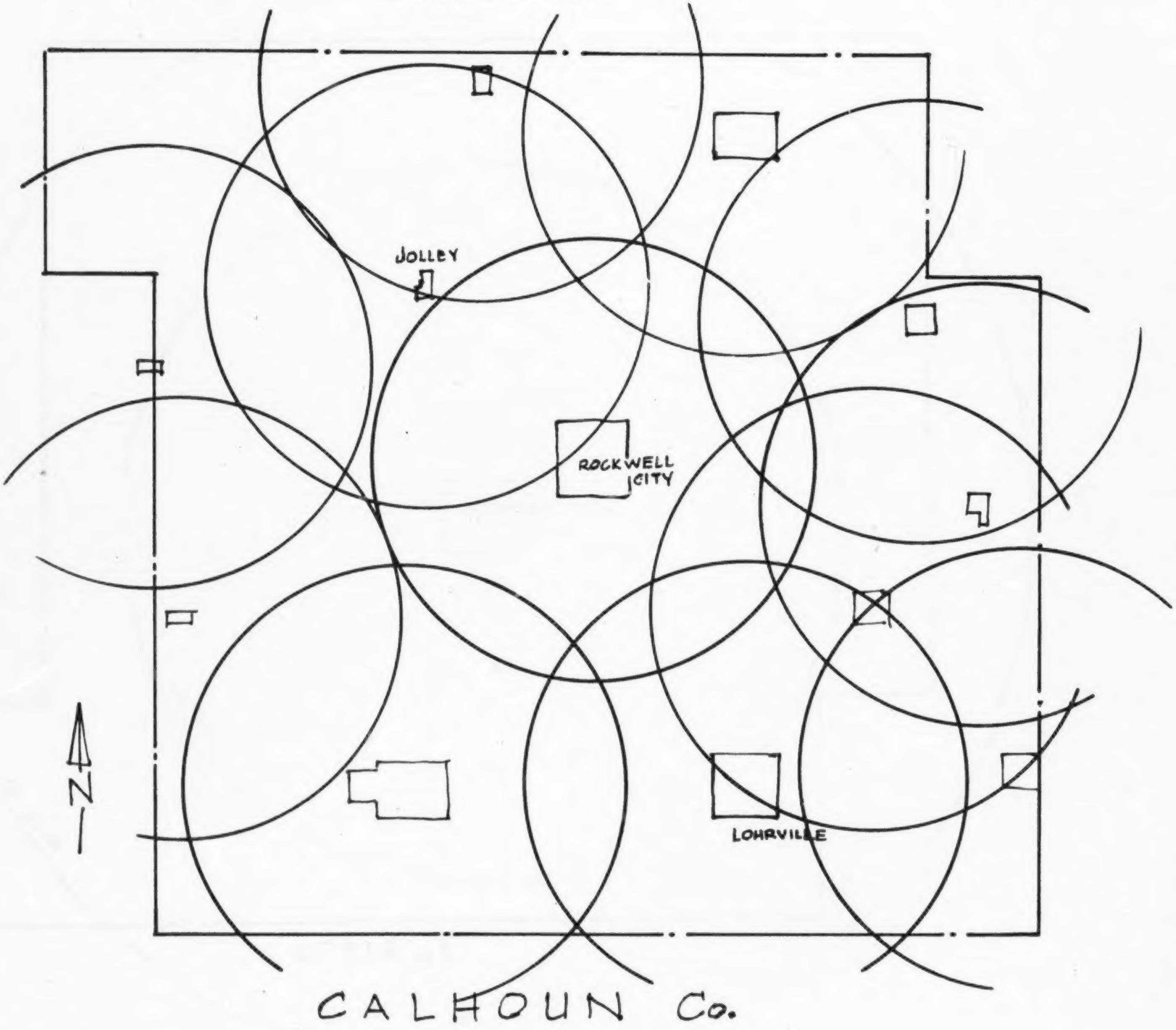

JOLLEY
ROCKWELL CITY
LOHRVILLE
N
CALHOUN Co.

PLATE #2

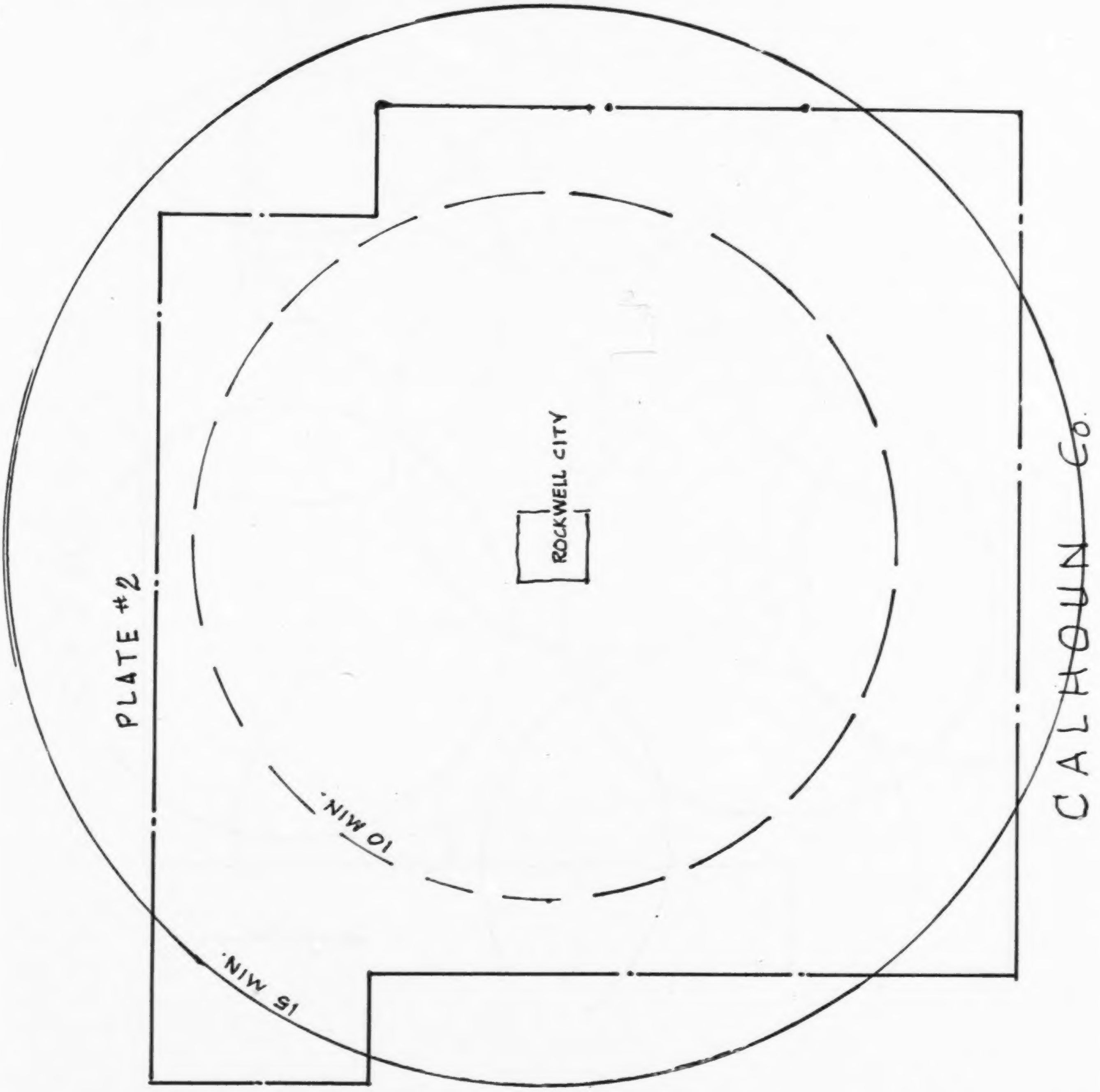

ROCKWELL CITY
10 MIN.
15 MIN.
CALHOUN Co.

PLATE #3

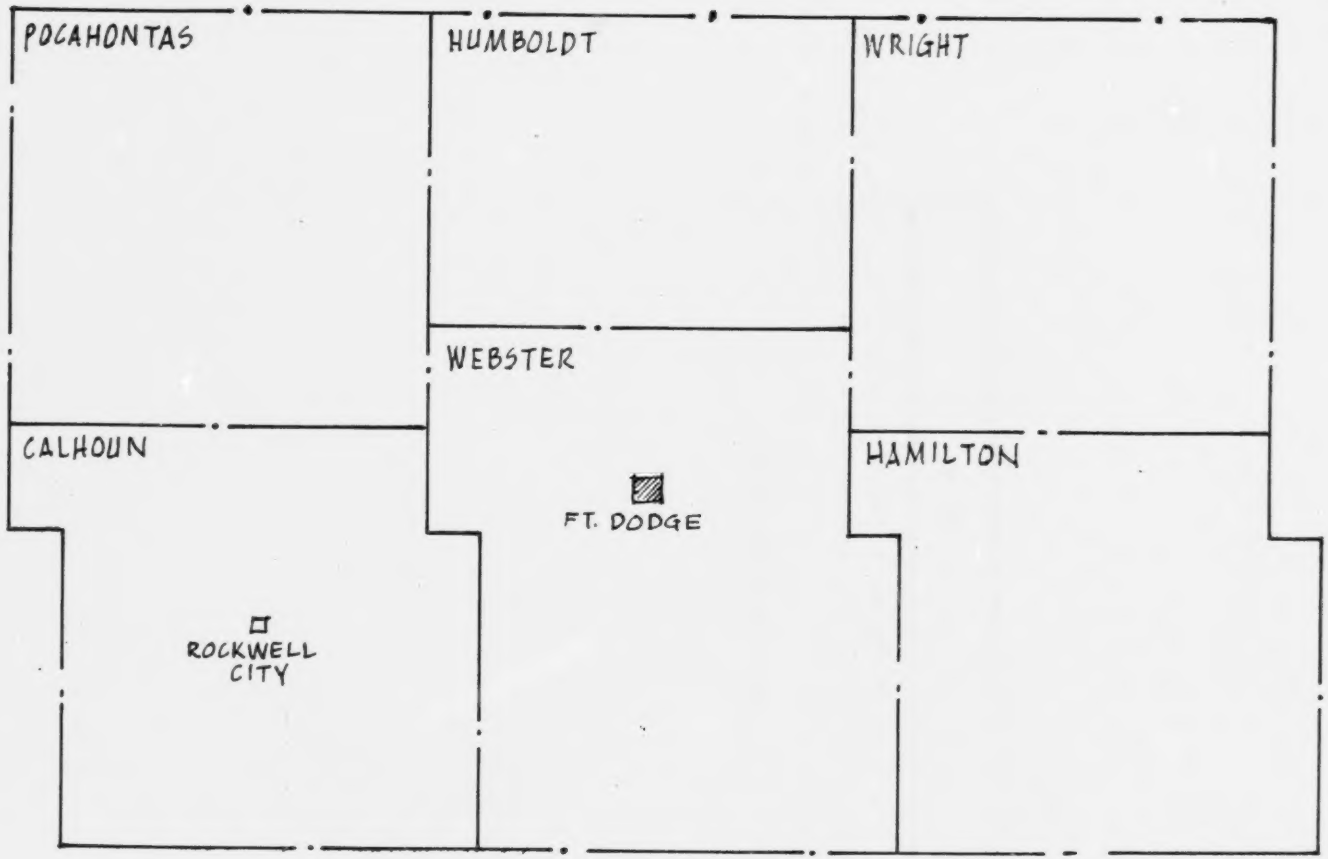

POCAHONTAS
HUMBOLDT
WRIGHT
WEBSTER
CALHOUN
HAMILTON
FT. DODGE
ROCKWELL CITY

PLATE #4

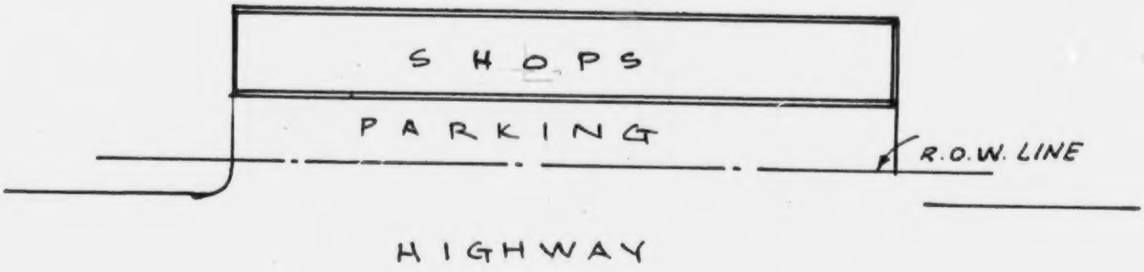

SHOPS
PARKING
R.O.W. LINE
HIGHWAY

PLATE #5

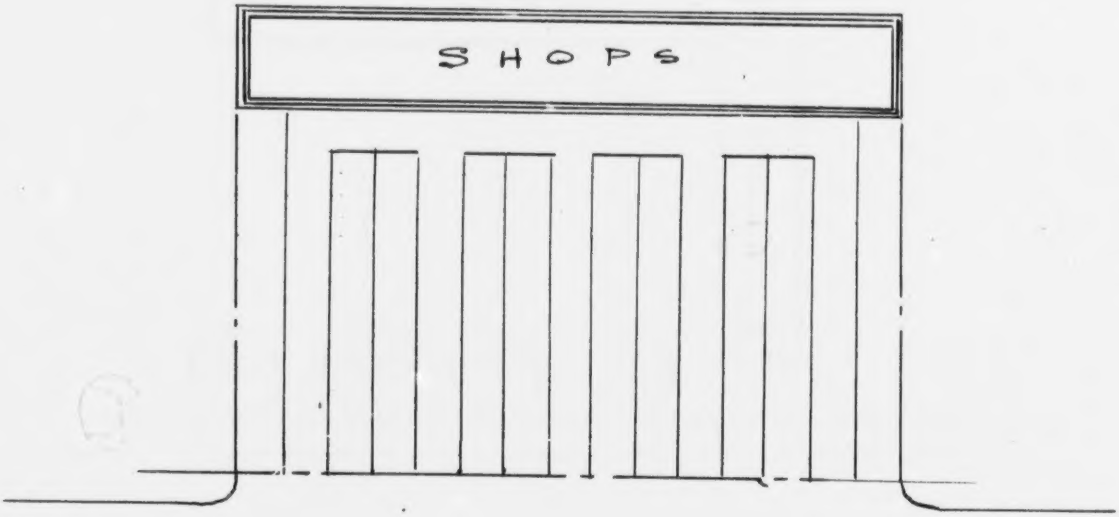
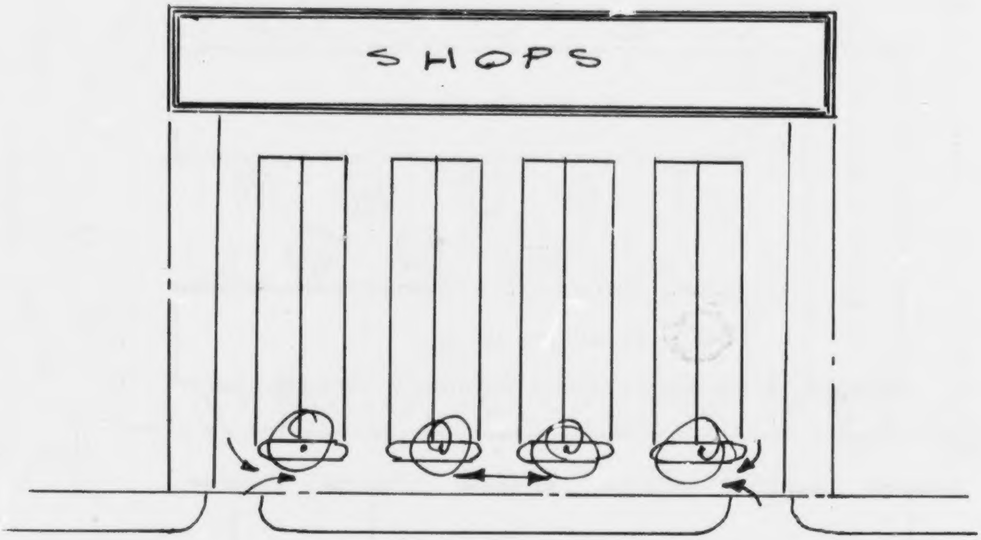


PLATE #6



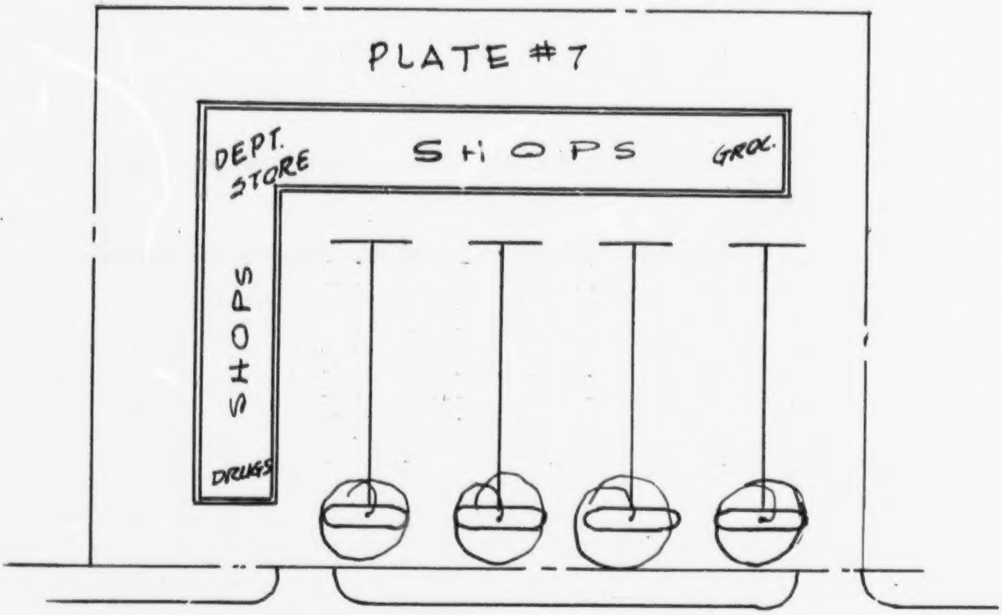


PLATE #7

DEPT. STORE
SHOPS
GROC.
SHOPS
DRUGS

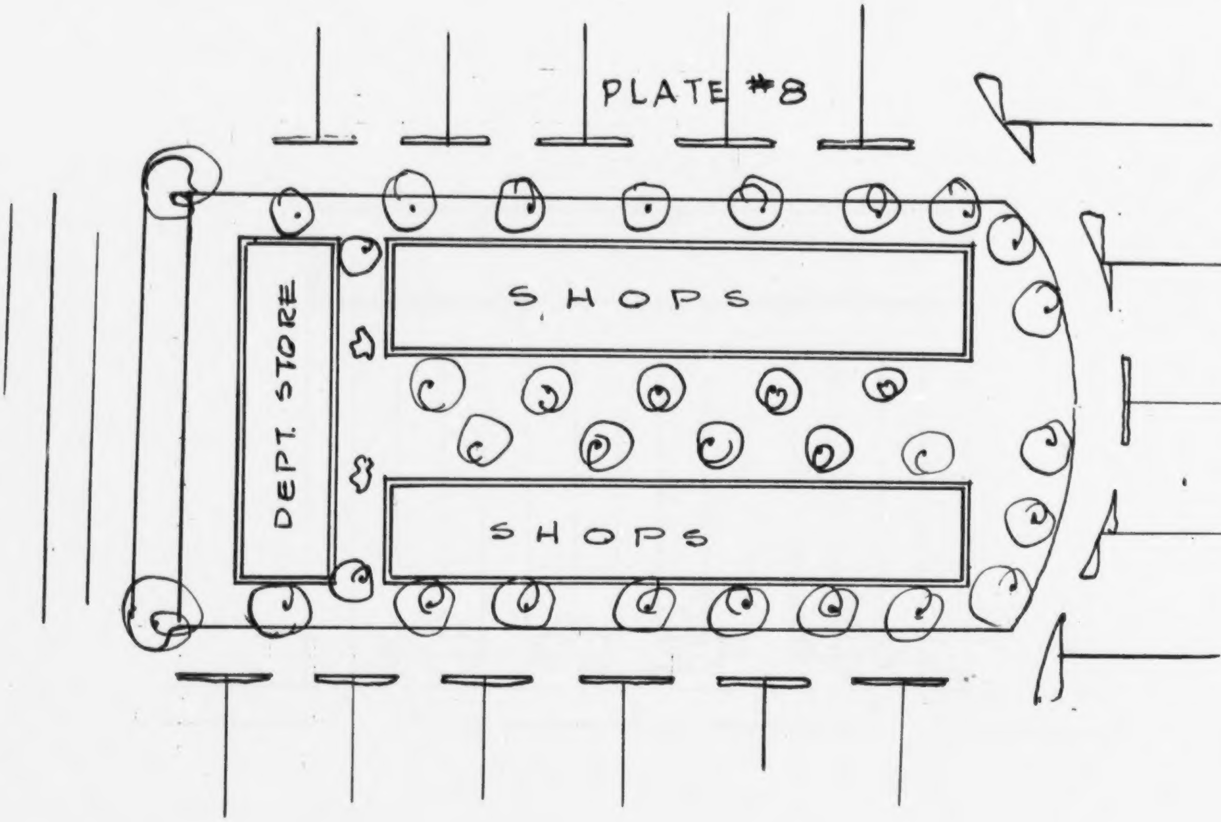


PLATE #8

SHOPS
DEPT. STORE
SHOPS

PLATE #9

TYPICAL MAIN STREET

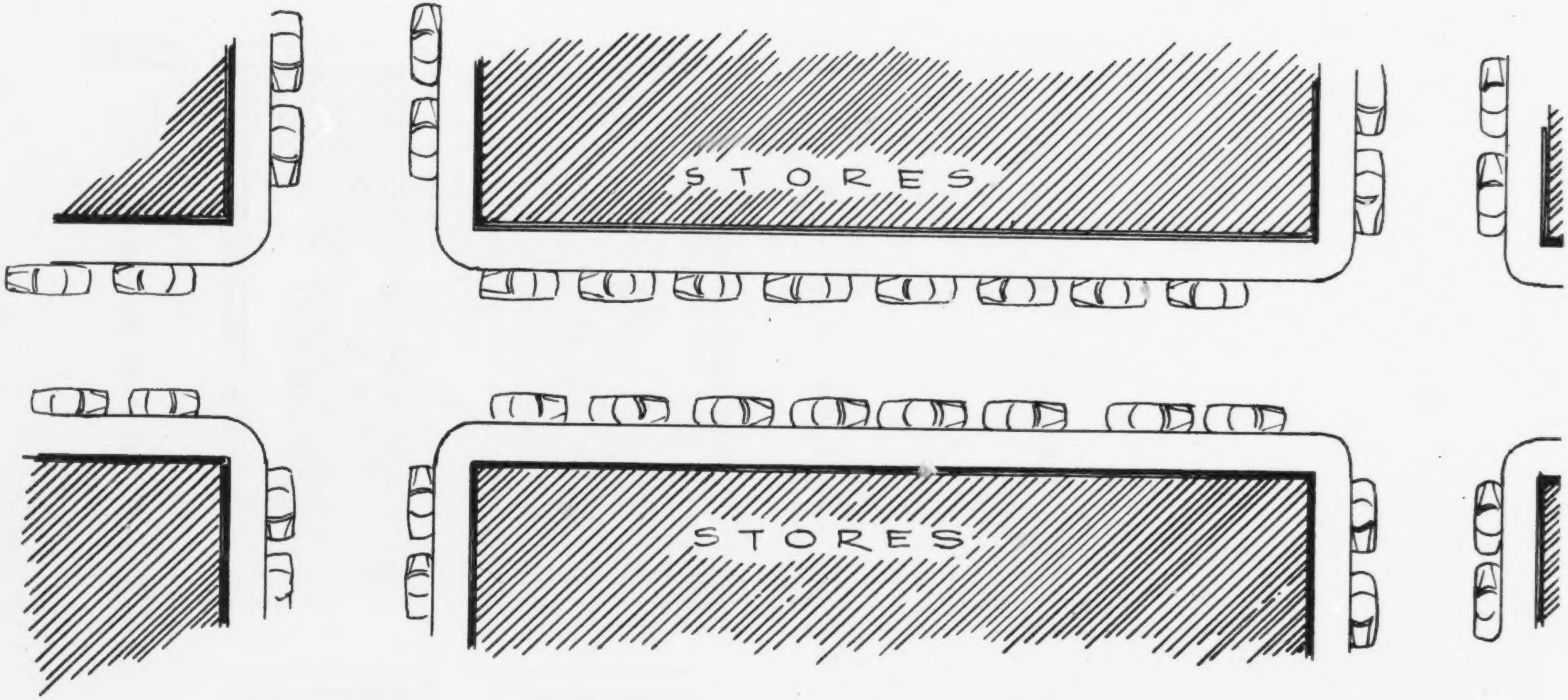

STORES
STORES

PLATE #10

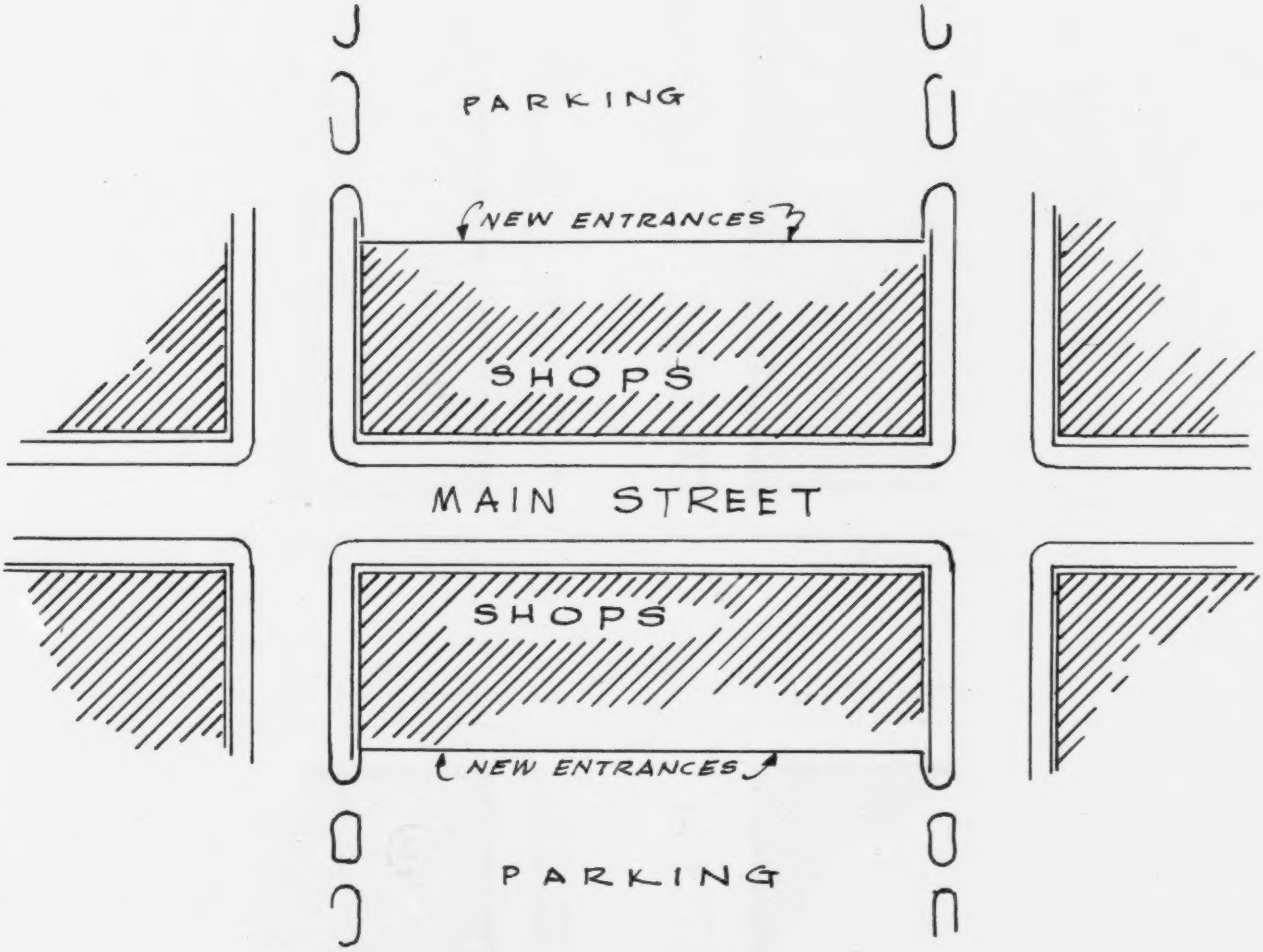
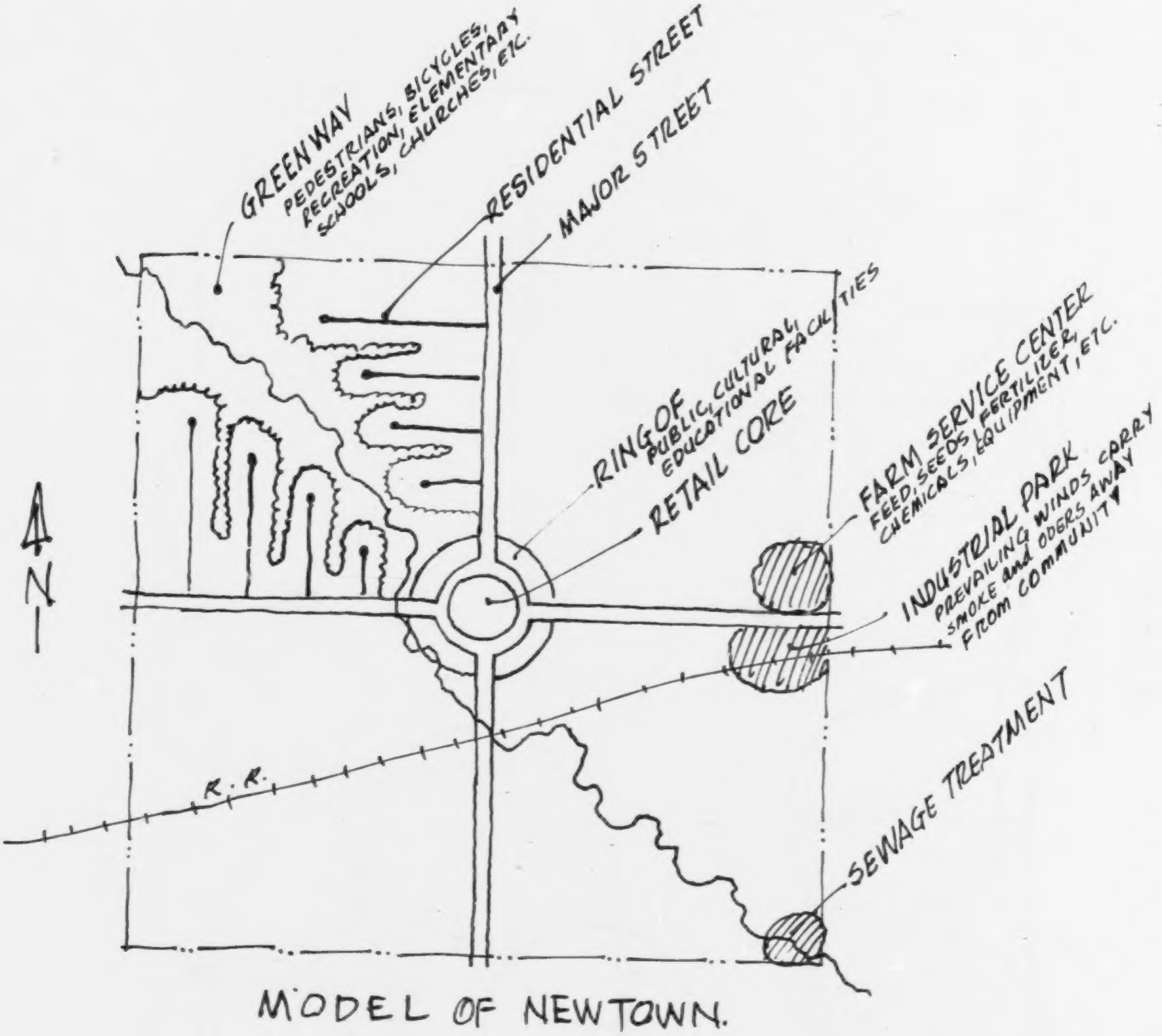
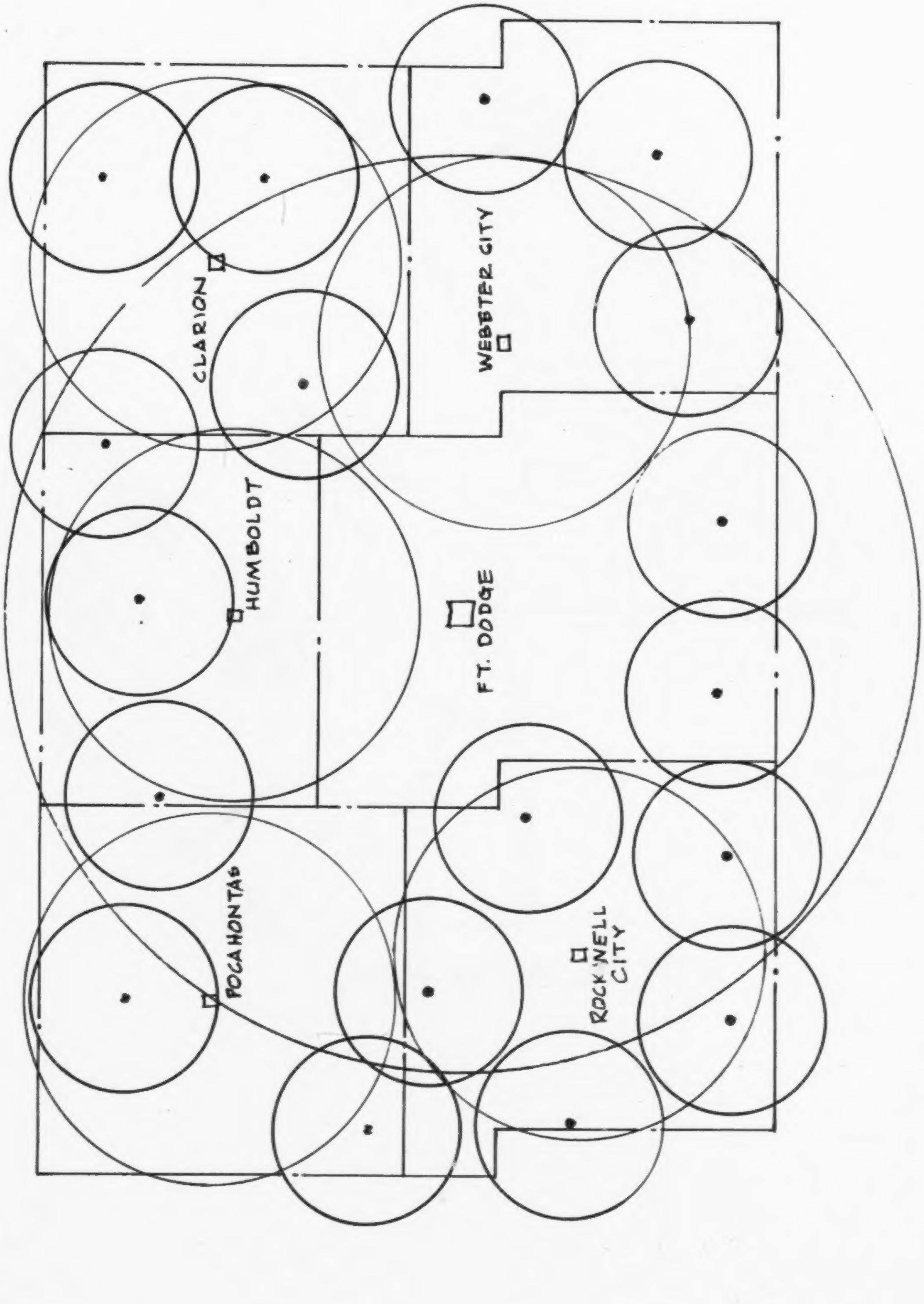

PARKING
NEW ENTRANCES
SHOPS
MAIN STREET
SHOPS
NEW ENTRANCES
PARKING

PLATE # 11


GREENWAY
PEDESTRIANS, BICYCLES, RECREATION, ELEMENTARY SCHOOLS, CHURCHES, ETC.
RESIDENTIAL STREET
MAJOR STREET
RING OF PUBLIC, CULTURAL, EDUCATIONAL FACILITIES
RETAIL CORE
FARM SERVICE CENTER
FEED, SEEDS, FERTILIZER, CHEMICALS, EQUIPMENT, ETC.
INDUSTRIAL PARK
PREVAILING WINDS CARRY SMOKE and ODERS AWAY FROM COMMUNITY
SEWAGE TREATMENT
R. R.
N

MODEL OF NEWTOWN.

PLATE #12


CLARION
HUMBOLDT
WEBSTER CITY
FT. DODGE
POCAHONTAS
ROCKWELL CITY

PUBLIC INCOME TRANSFER POLICIES AND RURAL COMMUNITIES; THE POOR AND THE DEPENDENT

By Arnold Paulsen
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"The poorest 12 percent of the people in the United States have only 2 percent of the income, even after income transfers."

"Most rural Iowa community leaders are anxious to continue their privileged power position, attract sales to their stores, and obtain factories for their industrial parks. Obviously, the poor are not relevant to these goals. The poor cannot ring the cash register very loudly."

"The political power of the poor will remain very small, especially in rural areas, but will increase in urban areas as more of the poor register, vote, and organize to get more efficient political representation."

PUBLIC POLICY in the U.S. involves at least $100 billion of income transfers each year. The level of living of most members of rural communities is influenced by public income transfer policies. The recipients of transfers and subsidies include both poor and non-poor. The vast bulk of the transfers and subsidies are not given to low income recipients. A few who receive large transfers were rich before the transfers. The incomes of many individuals are kept above the poverty line as a result of income transfers. Two-thirds of the 25 million poor, however, receive some cash transfers and are still poor. About one-third of the poor apparently do not receive any cash income transfers at all!

The Poor and Rural Communities

Poor people are scattered throughout all the counties of the United States and Iowa. The frequency of poor households in Iowa in 1970 varies from 15 to 30 percent among the counties. Every rural community, town, area, and growth center has a significant portion of its people who are so poor they cannot live at a socially desirable level. The poorest 12 percent of the people in the United States have only 2 percent of the income, even after income transfers. The non-metropolitan areas of the North Central Region seem to have an incidence of poverty very similar to the U.S. average. That is, poverty of Iowa rural communities is not significantly different in percentage or nature than poverty is in general. About one-third of the poor are under the age 14 and one-fifth are over 65. Two-thirds of the poor are in families with a working head. Two-fifths of the poor are in families with a female head. Females not in families make up half of the poor who are over 65. The chances of being poor were one out of six for children and one out of four for those over 65. Thirty-seven percent of the families headed by women in the North Central non-metropolitan areas in 1970 were poor. (9)

From 1959 to 1970 the number of people in poverty in the United States decreased absolutely and relatively. We had one-third less in 1970 than 1959, and the percent of the population with low income had declined from 22 percent to 12 percent inspite of the fact that the official poverty line had increased during this time (about one-third from $3,000 to $4,000 per year for a non-farm family of four).

Since the numerical reduction in poverty occurred mostly among families headed by a male, our current anti-poverty policy has worked relatively best for them and less well with people not in families and among those in one-parent families headed by a female. This tends to suggest that the reduction in poverty that we have experienced in the last decade may have been the result of making available more and better paying jobs. Increased income transfers are probably not the major causes of reduced poverty.

The poor are seldom seen and little noted by community leaders. The top one-fifth of the population in the United States has 40 percent of the income, 77 percent of the property, and probably a still larger percent of the membership in the community power structure. In rural communities, the leaders tend to do business mostly with each other and to socialize and plan community development with other leaders. The poor get very little time and attention from community leaders. Most rural Iowa community leaders are anxious to continue their privileged power position, attract sales to their stores, and obtain factories for their industrial parks. Obviously, the poor are not relevant to these goals. The poor cannot ring the cash register very loudly. The poor do not make major capital investments. The poor cannot confer nor remove leadership positions.

The resources of the poorest 12 percent are an insignificant 1 percent of the community's total resources. The poor usually have only relatively unskilled labor to contribute. Unskilled labor in most communities is in surplus supply. If by chance any industry has a shortage of unskilled workers, the routine tasks they perform are rather easily mechanized. Actually, to identify the community's poor is to define the group of citizens least significant to the community's economy and power structure.

The Dependent

The old and indigent are sometimes a large enough portion of the population, e.g. in some Iowa communities, to be economically significant. On the average the elderly constitute 12.4 percent of the Iowa population. In twelve southern Iowa counties, however, the percent of people over 65 is 17 to 22 percent. In some small towns the percentage is probably over 35 percent. In these particular local economies, there is clearly a net in-transfer of income through social security.

Since Iowa has 12.4 percent of its population over 65 and the nation has 9.6 percent, Iowa probably is receiving a net in-transfer of income via social security. Iowa residents received $421 million in OASDHI (Old Age Survivors Disability and Health Insurance) benefits in 1969. Iowa workers and employers probably paid about $344 million in social security taxes in 1969. The net in-transfer of $77 million is not large relative to 10 billion dollars in total Iowa personal income. However, in some local communities, the in-transfers via social security may be four or five times the total social security tax payments. Local businesses probably recognize social security checks and medical payments as a significant source of total local buying power.

Similarly, several State of Iowa programs transfer income and affect significantly the local economies in a few Iowa communities. Several rural communities specialize in providing the State of Iowa's services of custodial care and education, which results in income transfers in benefit of dependent people. Custodial care of indigent people and investment in unemployed people via medical, educational, and training activity involves a transfer of income. Granted, much of it is a transfer from one individual or group to another within the same local community. But not all of such activity is spread evenly throughout the state. Part of the public income transfer for care and training is very concentrated, and so it becomes a locally noticeable and significant basis for economic activity. Examples are the state facilities at Eldora, Woodward, Anamosa, and Clarinda where a significant impact on the local economy is made by the net in-transfer of public funds to care for and treat dependent people. Similar local economic effects in Ames, Iowa City, and Cedar Falls result from the public income transfers into those communities for higher education of full-time students. Higher education is an investment but also an income transfer toward students. The cities which contain the state universities benefit from private transfers as well as public transfers. The benefit to the economies of communities that specialize in educating, housing, and otherwise serving students is incidental to the purpose of public higher education. Nevertheless, a university is basic industry, and the community economy may boom with a rise in enrollment and stagnate with a decline.

The non-poor who receive income transfers and the transfers and subsidies which they receive are several times more important than the poor and their support payments. The economic importance of transfers in rural communities is large, and how important the transfers are is directly related to the dollar volume of the local receipts of transfer payments. All communities are obligated to about the same burden to pay for transfers, so the significance of transfers depends on the local participation. Relatively large local participation in any one transfer program will usually mean a net in-transfer via that program. Perhaps the largest group of recipients numerically is the old, the dependent young, and the disabled. But even after transfers, these are still poor or near poor, and therefore even collectively the transfer to them is probably economically rather unimportant. Probably the most economically important transfers are the non-income tested transfers and subsidies which go to the non-poor. These may be very large or very critical for the local economy. A local employer can have a payroll of a million dollars a year and yet be dependent for continued operation on a relatively small subsidy which spells the difference between covering costs at competitive prices and going out of business.

Of all the income transfer programs that affect the economies of rural communities, the most numerous, pervasive, expensive, and difficult to evaluate are those which are in the form of subsidies. There are a wide variety of subsidies: tax subsidies, credit subsidies, benefits in kind, cash subsidies, and regulatory subsidies. All communities help pay for all of these subsidies, and almost all communities receive some benefits from one or more of them. The types of communities with less benefits than costs in total from all the subsidies and vice versa are very difficult to identify. A few communities may be aware of one subsidy, e.g., dependent on transportation regulation that requires some unwilling common carriers to provide the community freight service. The community is certainly unaware, however, of how much the below-cost freight service costs other communities or how much value the subsidized service is to the economy of the community. There are a bewildering set of local property tax exemptions and tax credits that have unknown costs and consequences on individual local economies. Examples are homestead exemption, veterans exemption, agricultural land tax credit, and exemption to tax on property owned by churches, colleges and lodges. Furthermore, tax exempt municipal bonds provide a universal opportunity for subsidy to the cost of municipal services and may also be used for financing industrial parks and factories. Special tax treatment of capital gains is a subsidy to long-term investment. Credit for housing and electricity may be subsidized. Medical care costs are subsidized in several ways, e.g., directly for the old and the poor, but also to others via income tax deductions if medical bills are large relative to income. Income is transferred to agriculture through direct payments and also by market intervention and supply control. Production of specific agricultural and non-agricultural products is discouraged and stimulated in local communities by national import restrictions.

This bewildering array of subsidies and income transfers certainly affects most rural communities more than income transfers to the poor. The total cost of subsidies and income transfers is well over $160 billion per year. The effect on any one community would be tedious to estimate, since there are dozens of different programs and hundreds of economic activities affected. Surely there are some communities which benefit more than they are burdened by taxes for these income transfers and vice versa. The approximately $8 billion income transfers in the direction of the poor and the $11 billion poverty gap in 1970 seem relatively unimportant when one recognized the $160 billion total costs of income transfers and subsidies.

Subsidies may affect the volume of local employment and the volume of spending in local retail stores, and thus, influences the income of even the other non-poor who do not directly receive subsidies or transfers. The economy of particular local rural communities can be seriously affected, positively or negatively, by high or low participation rates or by the incidence of the tax to support one or more of these large transfer or subsidy programs. For example, in the late 1950's several small rural communities in marginal farming areas of northern Minnesota were threatened with loss of most of their local grain production, local retail sales, and even population by the conservation reserve. They feared the town would go out of existence as a result of retirement to non-use of a large portion of the cropland in the area. In contrast, employment is currently being created and sustained in many rural communities by income transfer under social security, by agricultural price support subsidies, or by transportation regulation subsidies.

Local Public Relief Policies for the Poor in Rural Areas

For a long time rural areas have been faced with excess people unneeded in the local economy. This has been true throughout history not only in Iowa, but in other parts of the world. Out-migration has been the favored local public solution for dealing with an excess of able-bodied poor in rural areas. To provide public relief in rural areas for all the poor is generally considered impossible and a tax burden on local people. Actually, local income transfers via public assistance would be a relatively small local burden today, since federal and state governments pay the majority of the cost. The local taxpayers usually provide less than 25 percent of ADC (Aid to Dependent Children) grants, for example. Nevertheless, there is some local cost to giving relief while the local government has no cost if the poor migrate to other states or to the cities.

The excess of rural people might be accommodated by a policy of share the work. Underemployment would result. Doing less work or less demanding work than one is capable of is common to many areas and occupations with an excess supply of labor, usually when migration is not possible or not encouraged.

Probably the rapid out-migration from rural areas in the United States, the lower wages in rural areas, and a lower percentage of eligible people on welfare in rural areas are all consequences of rural areas' relatively limited relief policies. Rural communities pursued relatively restrictive relief policies during the 1950's and 1960's. Low relief participation on welfare by poor people was common and possible in rural communities because poor and unemployed persons are widely dispersed in rural areas and erupt into civil disorder and political revolution less often. In cities, however, high concentrations of poor, dependent, and desperate people occurred in small, crowded, unpleasant space. In urban areas with no migration possibility, the alternative to relief is riot. To the policy-makers, the alternatives become to create work, endure civil disorder, or give relief. Work was preferred, but usually relief seemed better than riot. In rural areas the policy alternatives were the same except they clearly include migration. Migration apparently is more likely and preferred to all the others. Migration of the unneeded poor means lower taxes and little chance of social change or disorder in the rural community. To the extent people are unable or unwilling to migrate, restrictive relief policies can increase the supply of workers available to work at low wages. People unable to migrate will accept unpleasant jobs at low wages in rural communities if relief policies do not provide an alternative. Very low monthly allowances, available to only a very restricted group, characterize the relief policies of many rural counties.

A conservative local rural community relief policy protects the income and the wealth of the upper class, and also protects the social structure through promoting the poor out of rural areas. A policy of local indifference to the plight of the poor served both the economic and political interests of the nonpoor of rural areas. Migration helps rid the area of surplus workers who are of no economic value and also reduces the number of rural poor who would be at least partly dependent and a local tax burden. Migration also reduces the possibility of civil disorders and changes in the local political and economic system. Restrictive relief arrangements perhaps only incidentally increase the willingness of marginal workers to accept low rural wage rates. Relief is a floor under wages, and the less relief, the lower will be local wage rates. Low wage rates mean that the return to land and capital will be higher when prices of products are fixed as they are for local employers who produce goods for national markets.

The story of the relief practices of rural Ireland during the Potato Famine of the 1840's may be instructive. Literally hundreds of thousands of rural workers and farmers were desperate. Civil disorder was threatened and so was the continuation of the existing political system. The poor were so numerous that extended relief would have been very expensive. Nevertheless, emergency food was offered but only to all with less than one-fourth acre holdings. The precaution of giving only to small holders seemed prudent in face of the potential financial cost of the emergency. Actually, of course, with potatoes not yielding anything in Ireland, even medium size farmers were destitute. Medium sized farmers were faced with the unhappy prospect of starving because their holding was too large or divesting themselves of their holdings to obtain soup. Many gave up their holdings, accepted the soup and then emigrated. The larger land holders were delighted to obtain control of the land at favorable prices. The land was put to grass and sheep which were rather more profitable than renting to poor tenants who had only blighty potatoes and paid no rent.

Relief Policies for the Poor in General

The relief policies of the Southern cotton counties during the 1950's may also be instructive. With the arrival of successful mechanical cotton harvesters, hand cotton pickers were unneeded. With the arrival of herbicides, the hand hoeing of cotton was made obsolete. Soybeans provided a good cash crop for land which could not be planted to cotton. The nearly illiterate plantation laborer were economically obsolete. His labor and that of his family could be replaced by machines. The garden plot where the plantation worker had raised his vegetables could be planted to soybeans. Even his shack took up space that could be put in a higher valued use and interfered with the straight machine rows.

The cotton farmer and community leader of the South certainly must have seen little benefit and much cost in a generous relief policy. Occasionally workers were needed, and even though wages were low, workers could be obtained if welfare was cut off when work was available. Generous relief would certainly have been expensive in the 1950's in the South. Generous relief might have discouraged migration, and probably would have made workers less available at prevailing low wages.

The employment decline in rural areas has followed advances in mechanization and other substitutions of capital for labor. Thus, it never has been precipitous or concentrated, at least not relative to the unemployment crisis in the cities during the 1930's or the 1960's. No huge numbers have ever been simultaneously unemployed in rural areas. Rural people without work have usually accepted unemployment as individual misfortune. The urban worker faced with precipitous, concentrated, and widespread unemployment tends to blame the man-made system. The rural areas have had a vast surplus of labor, but it has been unorganized, docile, and mobile. Not so in the cities--as a result jobs were created and relief given to avoid disorder. Any incipient effort at militancy in rural areas, however, was cut off by the farmer or factory; the dissident or disorderly were forced to choose migration or submission.

In the 1950's, whether in the North or South, the relief system did not respond to the deprivation generated by the tremendous agricultural modernization and economic upheaval. The relationship between widespread economic deprivation and the expansion of relief arrangements is neither direct nor simple. It seems that relief is not provided to protect the poor from need, but to protect the rich from the poor. Economic convulsion in agriculture did thrust large numbers of families out of their occupation and into near starvation, but this did not threaten the rural power structure. Dislocation and need alone was not sufficient during the 1950's to produce an increase in the number on relief. But agriculture's economic dislocation when it came to the cities (coupled with urban unemployment), created disorder, turmoil, and political crises which did lead to expansion of the relief rolls.

Eventually in the 1960's, many Southern blacks who had been displaced by advances in agricultural technology migrated to cities and became concentrated in large numbers in the central cities of the North. In six cities in 1960, half of the blacks had been born elsewhere, chiefly in the South. One can hypothesize that in the 1960's the threat of disorder and the power of slum voter registration may have been responsible for sharply larger AFDC caseloads. In 1963 29 percent of negro men in the central cities were unemployed at some time during the year. Half of these unemployed (15 percent of negro men) had been unemployed 15 weeks or more!

In contrast, white rural migrants from the Midwest tended to disperse in smaller cities, towns, and villages. They mixed thinly with the local residents and were absorbed rather smoothly.

There is much disagreement over relief policy. Some clammer for more restrictive relief policy to save money and encourage work. Some want more generous relief to ease the condition of the poor. The momentary compromise between restriction and generosity is easily upset. With changing conditions and prospects, leaders shift position on how poor and dependent people must be regulated. If more restrictive policy can decrease welfare cost and increase work without civil disorder, then restriction will be favored.

In spite of their relative unimportance politically, the reaction of the poor influences the decision. So long as the poor hold a self-evaluation that their plight is due to their own faults, the relief policy can be restrictive and stable. If the civil or social situation becomes unstable, policy-makers may move toward generosity since their self-interest is threatened. Generally, a sudden significant increase in the number of urban poor because of unemployment is most dangerous because there will be an increase in the proportion of the poor who are able-bodied, willing to work, and obviously not poor out of their own errors. These able-bodied are likely to feel that their situation is more the fault of the system than their own. Vigorous job creation and more generous relief policies are likely to follow precipitous unemployment and more of the eligible will be allowed to participate if the system is threatened. In 1932 Congressman Fish said, "If we don't give relief under the existing system, the people will change the system."

Future Prospects for Relief Policies

Of course, the future is unknown. So these speculations about future policies are actually a summary of past trends and personal opinion.

Rural areas probably will continue to export many of the poor, displaced by agricultural mechanization, to urban areas rather than support or rehabilitate all of them in rural areas. Greater federalization of welfare and retraining will reduce, but not eliminate, the less favorable relief and rehabilitation available in rural areas. The political power of the poor will remain very small, especially in rural areas, but will increase in urban areas as more of the poor register, vote, and organize to get more effective political representation.

Relief programs will continue to be designed and selected by policy-makers to serve the interests of the rich and powerful. Work requirements, as a screening device for relief recipients, will probably be extended to able-bodied women as well as men. Relief in kind will be more acceptable, and thus, more generous than relief in cash for the poor. Public programs to provide medical care, housing, food, education, etc., will persist, expand, and broaden their coverage. Private relief programs based on voluntary contributions by families, churches, neighborhodds, and charity services will continue to decline in importance relative to tax-supported relief programs.

Total public income transfers and subsidies will become much larger than the current $160 billion per year. The percent of total personal income transferred will increase. In the future, even less than the present 5 to 10 percent of the total public transfers will go to the poor. The poverty line will increase absolutely, the working poor will be included in more and more assistance programs, and the proportion of eligibles who participate in relief programs will rise. However, the percent of the population which is declared poor will decline (it will decline faster in rural areas than urban), and a larger percentage of all income transfers will go to middle and upper income people.

TABLE I Major Federal Subsidies

	1971	61.0+ Billion
Tax		35.8
Medical expense, premiums and care	3.1	
Housing interest and property tax	5.7	
Capital gains, individual	7.0	
Charitable contributions	3.5	
Pension contributions	3.1	
State and local bond interest	2.3	
Credit		4.2
Public, rent, owner (235, 236)	2.3	
REA	0.2	
Benefits in kind		9.2
Food stamps, school lunch	2.0	
Medicare and medicaid	5.1	
Cash		11.8
Feed grain, wheat, cotton	3.3	
Veterans education	1.6	
Urban Renewal, Model Cities	1.4	
Purchase over market price (defense, stockpile, agriculture)		
Regulatory subsidy		
Oil import quota	5.0	
(transportation, textiles, sugar quotas)		

Source: The Economics of Federal Subsidy Programs - Joint Economic Committee. June 1972.

TABLE II. Major Income Transfer Programs

Total Income Tested		24.6 Billion
ADC	6.7	
OAA	2.5	
Veterans Pensions	2.5	
Food Stamps	2.0	
Medicaid	7.0	
Total Other Income Transfers		75.0 Billion
OASI	34.5	
Medicare	8.5	
Disability Compensation	4.0	
Unemployment	6.4	
Public Employer Retirement	12.8	
Veterans Medical Compensation	5.8	
Total		99.6 Billion in Fiscal 1972

119 Million recipients
60 Unique individuals

Source: Public Income Transfer Programs Studies in Public Welfare No. 1. Joint Economic Committee. April 1972.

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LABOR MARKETS AND RURAL COMMUNITY DEVELOPMENT

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"The labor market is a useful regional unit for studying the socio-economic changes affecting the health of smaller rural towns, particularly from the viewpoint of employment location."

"...development policies which encourage the general decentralization of economic activity and the specialization of cities in providing services seem most likely to provide the maximum development benefits to rural citizens."

Introduction

DURING THE 1960's, significant changes occurred in the economic structure of labor markets both in Iowa and other states of the nation. The substitution of secondary and tertiary activity for primary employment and the decentralization of economic growth into smaller communities of these regions resemble similar changes in our larger metropolitan areas. These developments should produce a higher income and more diversified activity-mix within these regions and may strengthen the ability of rural communities to provide needed public services. The extent to which the very smallest communities share in this growth depends in part on (1) the appreciation by policy-makers of these recent changes and (2) the design of development programs which complement these trends.

Labor markets are one possible regional unit for studying the development problems of the smallest rural towns. In defining the labor shed of an economically significant central place, this region includes the major urban communities which compete with the smallest rural service centers. Termed the Functional Economic Area by Fox (2,3) this region spatially contains both the home-to-work and shopping radii of most regional residents and internalizes the day- and night-time population. Since much of this paper is devoted to policy problems, it will be useful to distinguish three contexts within which this region may be viewed:

Governmental:political unit:

As a general governmental unit, the labor market might centralize county services and provide the planning base for state financed public services. Much of the case for the labor market as an official governmental unit rests on the presence or absence of economies of scale in public services; such economies are presumable attained by centralizing governmental services in the largest city of the multi-county unit. The impact on small towns depends on the ability of this governmental unit to efficiently deliver services to the more spatially remote areas of the region. Though regional economies of scale appear likely in vertically integrated services such as water supply, most administrative and regulatory activities in the public sector are not subject to substantial economies of scale. The strength of local political loyalties to county government also render the labor market an unlikely candidate for a general governmental unit.

Policy:programming unit:

The labor market may also be used as a programming unit for policy administrators in spatially larger governmental units. Iowa, for example, has passed legislation permitting multi-county regional planning commissions and is using the labor market as an administrative unit for state services. This region is also the spatial basis for many community and vocational colleges which are designed in part to provide potential out-migrants with skills necessary in larger urban communities. The "growth-centers" development policy would centralize the administration of most governmentally provided services in the central cities of labor market regions. Though it seems unlikely that the labor market will be legitimized as an official governmental unit on a significant scale, it is an important region for both general and specialized planning purposes.

Socio:economic data unit:

As a data unit, the labor market extends the spatial basis for maximum daily interaction within the regional community and defines the areal boundaries within which most income is both earned and spent. It is, in this sense, the smallest unit within which consistent social, income, and product accounts may be estimated. Berry (1) found, that compared to currently used SMSA criteria, a labor market delineation would extend our view of centralized regions in the United States from 67 to almost 96 percent of the population; many of the excluded regions include the smallest, most impoverished rural towns of the nation. His analysis dramatically illustrates the impact of spatial delineation on how regional units and their problems are perceived. The growing recognition that official Census statistics have relied too heavily on convenient political units is a significant development in formulating rational regional policies.

Within the context of these meanings, the purpose of this paper is to relate some recent economic developments in labor markets to problems of rural communities. The data includes a detailed sample of 86 labor markets in the United States dis-aggregated by major city size classes for the earlier part of the decade and more recent changes in the 16 Iowa labor markets. In sections II and III, some important sectoral indicators of growth within the labor market are discussed. Section IV outlines several regional development strategies suggested at the labor market level, relates their objectives to the discussion in sections II and III and indicates their likely implications for the smallest rural communities within these regions.

II. Basic Employment, Population and Housing.

Regional economic growth may be expected to have two major effects on the smallest sized communities of the labor market. (1) Spatial decentralization of economic activity may raise incomes of families in the smaller towns in part through the substitution of manufacturing for agricultural employment and the subsequent impacts on employment in the services sectors. Commercial sales and new housing construction may increase in smaller communities if population growth follows similarly decentralized patterns. (2) Spatial specialization may occur as particular communities react to rising incomes by concentrating in specific services for the broader regional community. Residential specialization, for example, may cause a substantial redistribution of construction activity among communities within the region and other towns may specialize in medical, educational and transportation service. These specialized towns often usurp a portion of the economic base of other communities in the region and are usually more sensitive to changes in the general level of economic activity in the region.

The spatial distribution of the population (and residential construction) crucially depend on the locational impacts of a changing mix of basic economic activities. The substitution of secondary for primary employment tends to increase the locational choices for firms producing exported products. Smaller communities may find that it is increasingly difficult to compete for their regional share of basic employment. Conversely, the choice of residential site is similarly freed from the location of agricultural production so that the average journey-to-work trip length is probably increased. Smaller communities may now compete as specialized residential centers or as producers of other services demanded within the region as a consequence of rising incomes.

Manufacturing and agricultural employment

Manufacturing employment growth is the result of expansions of existing firms or new plants locating within the labor market; the latter are particularly important in expanding the tax base and both the quantity and quality of services provided by the public sector. There is considerable evidence of manufacturing employment decentralization during the 1960's both among and within labor markets in the United States. Haren (4, p. 431) estimates that "about half of the gains in manufacturing employment in smaller or non-metropolitan labor markets, or approximately 20 percent of the national total, stemmed from new plant locations or expansions in entirely or partly rural communities." He attributes these changes to improved transportation facilities (primarily the interstate highway system), changes in marketing and processing technologies, and the increasing attractiveness of smaller towns for living and working. In Iowa, the value of gross output in manufacturing has exceeded that in agriculture for several years and probably accounts for the positive population growth rates in the four eastern labor markets over the period 1960-70. Because of productivity trends in these sectors, it is likely that the manufacturing sector will continue to expand at the expense of agricultural employment within Iowa.

Within labor markets there is also additional evidence that manufacturing decentralized significantly earlier in the past decade. From 1958-63, manufacturing employment grew by 11.9% in the national sample of labor markets while agricultural employment declined by 26.7%. Within central cities (all with less than 100,000 persons in 1960) manufacturing employment grew by 7.1%, while the peripheral communities experienced a growth rate of 14.4%. These rates of growth were sufficient to raise the intensity of manufacturing employment relative to population between the central city and peripheral communities of these regions. Indices of the percent of manufacturing employment to the percent of population attributable to these sub-regions rose for the smaller communities and declined in central cities. (See Table 1 for the estimated growth rates and activity intensity indices.)[1/] This is an encouraging development from the viewpoint of the mix of basic employment activity in the smaller communities even though the base of manufacturing employment is low.

Several consequences of manufacturing employment decentralization and growth should be noted. (1) Since product durability and plant size are positively correlated, it seems likely that non-durable manufacturing accounts for the largest proportion of employment gains in the smaller communities. As we also expect percentage fluctuations in the labor forces of durables production to exceed those in non-durables, it seems likely that new plant locations in peripheral communities account for more of the manufacturing gains in these smaller cities. Though this hypothesis is not directly testable from Census data, it may have had a greater impact on the tax bases of the smaller peripheral towns. (2) Increasing the journey-to-work length in the periphery of the region obscures the centrality (and hence, efficiency) of the transportation system unless "reverse commutation" becomes important. Though there is some evidence that this may have occurred, dispersed trip distributions are very costly particularly in lower income regions where the opportunity cost of social overhead capital is high. (3) As manufacturing employment expands, the level and mix of supporting employment within the region should change. It is expected that as manufacturing activity is substituted for agricultural employment, the financial, utilities, and other public and private service sectors will expand and diversify though the location of these activities may or may not tend to be decentralized within the labor market.

Population growth

Among city size classes within labor markets, population growth has generally favored the larger communities of the region. This centralized growth may be expected to influence commercial sales in smaller cities and the journey-to-work patterns of residents to the extent that new employment opportunities are decentralizing and:or spatial specialization of economic activity increases. These population changes appear in data covering the past decade for both Iowa and the nation:

(1) From 1960-70, only 8 of the 16 labor markets within Iowa experienced positive population growth rates, but only 4 of these regions had negative growth rates in all constituent counties. (See Figure 1 for the labor market figures.)[2/] Within a single labor market, population growth varied from +34% (Johnson County) to -6.0% (Iowa County), suggesting the substantial redistribution of the population occurring within these regions. At the same time, urbanization proceeded at a steady pace so that by 1970, 50.6% of Iowa's population resided in counties with at least one city of 25,000 in population. The total

metropolitan population increased by 12.9% and the rural population declined by 6.4% from 1950-70. Though a more detailed urban classification for Iowa is not yet available, the high variation in rates of population growth among counties within these regions suggests that similar trends may be expected within city size classes of the labor market.

(2) Data for the sample of 86 predominantly rural labor markets in the United States confirm the disparities in population growth among city size classes for the earlier part of the decade. From 1958-63, central cities of these regions grew by 12.9%, over twice the over-all growth rate of the region (6.3%). Estimated population growth rates in the remaining classes are 12.6% (5,000-10,000) and 0.1% (below 2,500), suggesting the consistent decline in relative population growth rates by urban size class within the labor market. (See Table 1 for a comparison of these rates to other sectoral indicators.)[3]

Demographic characteristics of gross population change are also important in estimating public service requirements and the potential for specialized economic activities in smaller rural communities of the labor market; two problems appear to be of paricular significance within the state of Iowa. First, the crude birth rate in the state fell from 24 to 18 births per thousand from 1959-68. Despite some recovery in 1968-69, the national crude birth rate fell in 1970 to its lowest level since 1939, and it is unlikely that Iowa's birth rate will show a dramatic increase at least in the next few years. The illegitimate component of the declining rate has also risen, and the impacts on rising social service needs and declining rural school enrollments is already being felt. The residential bedroom communities in the state may find a substantial excess capacity in school systems built within the last decade. A second important demographic trend is the steady increase in the proportion of the population over 65 years in age. In 1970 Iowa ranked second only to Florida in this statistic and this has resulted in an increased demand for nursing facilities, recreational activities attuned to the needs of the aged, and special rural medical delivery systems.

Spatial specialization of economic activity in the smaller rural communities may be stimulated by the strong demographic forces noted above. Within labor markets, the smaller towns may show a surprising degree of specialized economic activity rendering a general definition of the "rural community" subject to considerable qualification. Within the eight-county region centered on Polk county, for example, the 1950-60 population growth rates for cities varied from 227.0 to only 1.9% The lowest natural increase component of population growth occurred in Boone, which was rapidly becoming a major retirement center for this region. Conversely, the highest rates of growth were found in Ames, the western suburban communities of Des Moines, and Indianola. These cities had substantial components of their populations employed in Des Moines and specialized in the provision of educational services. Newton is another example of a community within this region with a very specialized manufacturing base.

Residential construction

Housing costs may have an important short-run influence on migratory patterns within the labor market. Decisions to change permanent residential locations may be deferred if rentals or house prices are high and since commutation to a new job is always possible. This may have a particularly important influence on intra-labor migratory patterns. The evidence for both Iowa and the nation suggests, however, that substantial downward pressures on rents and house prices may be expected during the 1970's. From 1960-70 only 2 of the 16 labor markets in Iowa experienced rates of population growth exceeding rates of new dwelling unit construction. (In labor markets with population decline the rates of dwelling unit loss were also lower. See Figure 1 for these comparisons.) The two labor markets include Delaware County plus the 5 counties bordering the Mississippi River from Dubuque (north) to Muscatine (south); these regions have experienced high rates of population growth as the "manufacturing belt" west of Chicago has spread into the state. Even in the central Iowa region the percentage growth in housing units exceeded population growth by 2.4% for the decade.

Indicators of housing market conditions and dwelling unit quality also show substantial changes during the 1960-70 period.[4] The percentage change in vacant units in the central Iowa region, for example, was 53%, over 6 times its rate of population increase. Over the same period, the number of units with inadequate plumbing declined and the per capita consumption of housing space rose in all but 1 of the 16 labor market regions. In central Iowa the percentage change in dwelling units with inadequate plumbing declined by 50% and the percent of units with 1.01 persons or more per room fell by 27%. These indicators suggest (as for the United States as a whole) that an excess supply of sound rental and owner-occupied dwelling units may put downward pressures on housing costs in the next several years.

Within the labor market we might suspect that the distribution of these changes would be substantially different as between the central and peripheral counties of these regions. If rural out-migrants from the smaller towns are moving to the largest cities of the labor market, vacancy rates should rise in the periphery and fall in central counties. For the period 1960-70, however, the opposite movement has taken place for the major metropolitan central counties within Iowa. The percentage change in vacancies ranged from a high of 375% (Scott County) to a low of 139% (Woodbury County); no other county in the state exceeded the percentage changes in central SMSA counties. This is probably an indication that most of the redistributive impacts of population changes occurring in Iowa's labor markets are confined to suburban locational changes closely contiguous to the very largest metropolitan communities.

These patterns of housing market changes have several implications for the smaller communities of these regions. (1) Unless offset by substantial increases in non-residential building, downward pressures on construction employment may develop within Iowa over the next decade.

If some decentralization of manufacturing and services establishments continues to occur, the impact on peripheral construction employment will be lessened and perhaps only the mix of building activity will be affected. (2) To the extent that central city vacancies are high, rural housing developments may be a less effective instrument in maintaining population in smaller communities. Even within these programs it is not clear that the spatial distribution of federally constructed rural dwelling units strongly favors population retention in the smallest communities; the county distribution of FHA owner-occupied and rental housing units in Iowa is seemingly random as between the predominately rural and metropolitan communities. In any case, these programs would undoubtedly be more effective if tight housing markets in destination cities restricted rural out-migration. (3) Irrespective of the spatial distribution of housing construction, the case for extensive new residential construction in the next several years is weakened in the presence of sharply rising vacancy rates and substantial gains in all quality indicators for the standing stock of dwelling units. This has occurred in both Iowa and the nation and in conjunction with lower rates of family formation in recent years, the excess supply gap will probably be widening during the present decade. Under these conditions it seems unlikely that housing construction programs (rural or urban) will have a substantial impact on the ability of governments to influence population re-distribution.

III. Tertiary Employment, Income and Productivity

Changes in basic employment and their resultant impacts on the distribution of population within the labor market have spatial implications for tertiary sales among city size classes within these regions. The commercial health of the smallest rural towns is an increasingly important economic determinant of the local services environment and may be threatened by peripheral community specialization in retail and wholesale activities. The spatial distribution of incomes and productivity are also important in determining the potential for decentralized growth in the smaller communities of the region and the possibility of overcoming scale barriers to firm size in the residentiary and basic employment sectors. The ability to overcome scale barriers via new technologies in the delivery of residentiary services may be an important determinant in the specialization of function which is possible among the smaller communities of the labor market.

Retail, wholesale and services employment

Though population growth rates tended to be higher in the central cities of labor markets, the national sample showed an inverse correlation between city size and employment growth in the residentiary sectors. From Table 1 these relations are consistent with the sole exception of the two largest city classes in the services sector. Relative to population, residentiary activity in all sectors declined within the central cities of the labor market; the increases in the activity indices were somewhat randomly dispersed throughout the smaller city size classes. To the extent that employment increases are concentrated in the larger scale shopping centers in selected peripheral towns, it is likely that the marketing radii of these establishments will extend beyond current boundaries of Iowa labor markets; these dispersed retail centers may increasingly compete with central city establishments for the retail and services purchases of peripheral residents.

Services decentralization is a particularly important development since spatial spending patterns in the labor market are strongly hierarchical. The labor market sample indicates that while residents of smaller towns purchase a substantial portion of their goods and services in larger cities there are virtually no leakages of consumer expenditure from the central cities of these regions. At the margin we have estimated sales leakages of 27 and 31% to central city establishments in the retail and services sectors respectively. (See [6] for a detailed discussion of these estimates). About two-thirds of the impact of declining agricultural income is felt within the smallest rural service centers of the labor market.

A major result of these hierarchical spending patterns is to make small town retail and service establishments extremely dependent on the state of the local economy and:or the growth of similar establishments in larger communities. Rising incomes and population growth in the central city are likely to result in expanded residentiary activity which will compete with stores in the smallest rural service centers. Since central city sales tend to be spatially self-contained, it is only the proprietors of stores in the smallest towns that have a substantial stake in the spatial patterns of income and population growth among other communities within the labor market. Productivity differentials may result in some consolidation of residentiary sector investments in the future.

Earnings and productivity

A much studied characteristic of urban systems is the inverse correlation between average income (or wage rates) and size of city. Within labor markets it is expected that urban income differentials would not be large since a change of residence is not necessary to compete for job openings in the region. Also, it is likely that the impetus of economic growth to regional decentralization and specialization would tend to narrow these differentials as the smaller communities increase their share of secondary and tertiary employment. Despite these expectations, however, some evidence suggest that community income differentials may be highly resistant to substantial rates of economic growth both among and within labor market regions.[5/]

Nationally, it would be expected that manufacturing decentralization among regions would result in a convergence of wage rates in this sector and it appears to have happened at least among major census subregions.[6/] From the national sample rank correlations between earnings levels (1958) and their percentage changes (1958-63) were positive for all 86 labor markets, but negative within 5 of the 6 census regions represented in the sample. The sole exception occurred for labor markets in the Pacific-Rocky Mountain region; the Spearman coefficients ranged from -.40 to -.88 for the four subdivisions of the Central region. This somewhat weak "wage convergence" effect is due in part to the higher concentration of manufacturing employment among regions in the sample.

As shown in Table 2, sectoral average earnings also tend to decline monotonically from the larger cities to the smallest communities within the labor market. Though these differentials are not always large, they are statistically significant and somewhat more than might be expected within regions this small. In the towns of between 2,500 and 5,000 in population, the average wholesale employee could have expected to earn about $3,840 in 1963 which is $1,116 less than his central city counterpart. Manufacturing firms in the central city paid $374 more per employee than firms in the smallest towns in the labor market; retail earnings were about $415 lower in the very smallest towns. Allowing for the difference in occupational mix among cities, the disparity in average incomes for all residents would be even larger.

In addition to manufacturing employment growth outside the central city, several phenomena may encourage a reduction of earnings differentials among sub-region within the labor market:

(1) Spatial variations in the average size of firm and labor productivity may influence earnings differentials. As it is usually suggested that both these variables should be positively related to average earnings, larger firms and:or a more productive labor force should increase earnings in the smaller communities. The latter are severely disadvantaged from the viewpoint of firm size; in 1963 the following data on sales and value added per establishment ($000) suggests that scale differentials of over 100% are common among these cities:

	retail	wholesale	services	manufacturing
central city	$167.9	$742.2	$27.3	$635.2
small city	$76.8	$488.1	$12.9	$455.1

Available measures of labor productivity, however, show a uniformly inverse correlation with the city size classes. Retail sales per employee rose from $26,480 (central city) to $30,286 (cities of less than 2,500 population) in 1963. Similar inverse relationships are found in the wholesale and services sectors; manufacturing value added per employee was only slightly higher in the central cities of labor markets than in the other communities. Though we expect a considerable heterogeneity in the mix of services in different sized firms (particularly in the retail sector), the differentials in the wholesale and services sectors provide a substantial incentive to decentralization.

Regression comparisons using data for the central cities of the labor market sample generally confirmed the greater importance of productivity in determining earnings levels particularly in the retail and services sectors.[7] Regressions of sales per employee (productivity) and sales per establishment (scale) on average annual earnings yielded R^2 of .60 and .62 in the retail and services sectors respectively, with substantially higher t - ratios on the productivity variable. Though the wholesale and manufacturing equations were of substantially less significance, the t-ratios on the productivity variable are similarly higher. Though Census sources do not provide the data necessary to estimate a full labor supply and demand model for regions this small, it seems likely that both increasing productivity and larger scale enterprises in the peripheral towns should narrow earnings differentials in the labor market.

These estimates are consistent with the somewhat higher rates of employment growth in the retail and services sections noted in Table 1 and the possible decentralization of larger shopping centers to selected communities in the labor market. If the scale problem in smaller cities is overcome by the shopping plaza, specialization of particular cities in retailing is encouraged and the trade area of the community extends beyond the commuting limits of presently delineated labor market regions. Peripheral community specialization occurs in conjunction with decentralized growth, a phenomenon apparently taking place in the northern counties of the central Iowa labor market. The three shopping plazas in Ames service many customers outside of its currently delineated labor market region.

(2) Incomes in smaller rural communities will also be influenced by the degree to which product prices and/or wage rates are set in broader regional or national markets. Manufacturing firms forced to bargain in monopolistic labor markets pay higher average wage rates locally, providing an additional stimulus to the regional economy somewhat similar to the present exogenous effects of agricultural price supports. Under tight labor market conditions, externally determined manufacturing wage rates may have an additional impact on earnings in the tertiary sectors. In conjunction with the growth patterns noted in Section II, this "wage roll-out" hypothesis would suggest that the growth of manufacturing employment in smaller towns may reduce tertiary sector earnings differentials between the larger central city and other communities within the region.

The prospects for extensive unionization of rural manufacturing firms do not seem bright. Unionization has been much more successful in industries characterized by large firms, fabrication processes involving substantial specialization, and a high degree of concentration in product markets. The scale differences noted above are substantial and the smaller firms in non-central cities of labor markets are about 60% of the size of the average plant or firm in SMSA's. Highly technical fabricating processes typically require a diversity of inputs, the availability of specialized servicing skills and centralized transportation facilities, factors which will probably continue to favor the larger metropolitan cities. Rural manufacturing locations, on the other hand, will be preferable for firms with substantial local markets, products with high value to weight characteristics, and labor needs complementary to the skills and seasonal requirements of the africultural sector. Seasonal moonlighting and the availability of female labor also are typical of rural labor markets, and these characteristics tend to discourage unionization efforts.

Regression comparisons from the national sample of labor markets provide little evidence of complementarity between manufacturing and tertiary sector earnings levels. Data for both 1958 and 1963 for the central city and communities "outside the central city" were used to regress tertiary sector earnings on manufacturing wage rates. Consistently higher and more statistically significant coefficients are found in the wholesaling equations; this sector's R^2 statistics were also about twice as high as those found in the retailing and services sectors.[8/] Most of the equations R^2 statistics ranged only from .15 to .30, however, suggesting that many excluded factors are undoubtedly operative. (Data on union strength in manufacturing and unemployment rates are, for example, unavailable for regions this small.) In any case, the "roll-out" effect would be quite weak in the smaller communities since wholesaling is a fairly small sector and showed the slowest growth of all tertiary sectors over this historical period.

IV. Strategies for Regional Development.

There are numerous regional development policies utilizing the labor market as a spatial unit. These policies may be expected to influence the sectoral characteristics of communities within these regions and affect the competitive abilities of towns on the lower end of the population spectrum. The four policy approaches chosen for discussion in this section are representative of the combinations of (1) centralizing versus non-centralizing and (2) specializing versus non-specializing influences which characterize the regional growth process. All of the development strategies could conceivably be pursued by appropriate administrative and legislative actions at the state level.

Growth centers development

The growth centers policy is an example of a centralizing, non-specializing approach to regional development. Its proponents would encourage population growth in the central cities of labor markets (communities of between 25,000 and 100,000 in population) by discouraging the diffusion of policy investments in the smaller cities of the region.

It is a general (i.e. non-specializing) approach in that all government programs at the federal and state levels would be encouraged to locate in the central city of the region. Additional regional development benefits are to be attained by having one city of maximum population size within each of these regions.

There are several interpretations that regional economists place on the development benefits attributable to population scale alone. (1) Agglomeration economics accrue to firms in larger cities due to their contiguity to other business services; this may result in a limited range of increasing returns to goods and services production. It is unlikely, however, that significant production economies of this nature are found in the smaller central cities of these regions. (2) Population and income growth overcome threshhold barriers to the provision of higher order central goods in the absence of competition from very large metropolitan communities. The city moves upward in the hierarchy of central places providing a wider range of private goods and services to both its own residents and those in nearby communities. As noted previously, the impacts of the existing shopping patterns from peripheral to central cities are detrimental to smaller town establishments already suffering from declining agricultural incomes.

The full impact of interpretation (2) above depends on the latent demand in the region for the marginally hierarchical goods and the additional sales of lower-order goods that occur in the central city. If peripheral customers are already purchasing these commodities outside of the immediate labor market, then the growth of the central city internalizes this expenditure leakage. Also, as long as commodity substitutes and complements are closely grouped in the hierarchical order, the expenditure effects of central city growth will probably be confined to the growth node itself. Since higher order goods tend to be products of greater durability, higher value, and lower turnover, the effects of lower order purchases in the same shopping trip will also tend to be negligible in the smaller communities.

The centralization of all governmental services would probably constitute a net encouragement to further rural out-migration and could increase the costs of services provided to rural residents. As a governmental services center, the growth node would add a relatively high income, stable component of employment to its local economy constituting an additional attraction to rural residents particularly during business recessions. The costs of delivering services to the peripheral communities might increase and biases in favor of confining services to the growth node could result. The centralization of housing and educational programs could provide a further stimulus to population in-migration from peripheral communities.

Educational center

The provision of vocational:educational services in the central city may be characterized as a centralizing-specialization strategy;

it is specialized in the sense that a specific sector is singled out as major component of the central city's employment base. At least two interpretations of the role of the educational center are possible:

(1) The purpose of the vocational college is to ease (and possibly encourage) rural out-migration by providing urban skills to the agriculturally unemployed. The curriculum is designed primarily with the occupational needs of larger urban areas in mind in hopes of easing transitional problems of the out-migrant. The schools are, in effect, designed to reduce the spatial spillover costs in regions experiencing high in-migration by increasing the skill content of the migration flow; the problem of manpower allocation for regional residents is of secondary importance.

(2) The school's curriculum is designed to reduce short-run and frictional unemployment rates within the region. The vocational program attempts to project future occupational needs of the region and encourage enrollments by students whose skills are in excess supply. An implied objective is the reduction of net out-migration which typically is highest in the outlying rural counties of the labor market.

In these ways the vocational college may supplement the role of the labor market's largest city as a training center for its residents. Its ability to successfully perform this role depends primarily on the range of job experiences and occupational choices it can offer. This, in turn, depends primarily on size though occasionally very small cities are found with occupational profiles closely approximating those in the largest urban areas. If the skill requirements of a successful out-migrant move preclude back-migration for employment reasons or unduly long adjustments at the destination, then it seems likely that labor markets should have at least one city in the range of 75-100,000 persons. It is also likely that back-migration has been reduced in the university-age cohorts by providing two-year transitional programs between high school and larger collegiate institutions outside of the region.

The vocational and community college program also has implications for the provision of various services to regional residents. A higher income component of the employment base is added to the city with this institution and culturally-related services are provided. The institution itself provides regularly-scheduled events which may be successfully extended to residents in the smaller rural towns and, in many labor markets, is the only activity capable of bridging the vast gap between the very smallest and largest urban communities of the nation. More narrowly, it extends for two years the part-time employment base for workers in the younger age co-horts within these regions.

Agricultural services centers

If scale barriers to the provision of high-order services constitute a major impediment to maintaining the rural population, then the consolidation of these investments may be necessary. Some planners have suggested that several dispersedcenters designed to accomodate all the services demands of farm families might satisfy this scale requirement. This development strategy may therefore be characterized as decentralized and specialized in that selected services are to be dispersed within peripheral counties of the labor market. The centers would be designed to be complementary with the seasonal demands of agriculture and the services needs of all family members.

Agricultural extension activities would form an important component of the base for the center. Demonstrations of new farm machinery and agricultural techniques would be provided for the male household head and homemaking displays would be the principal occupational attraction for females. This component of the services center might be initially financed by the state government providing several focii for extension activities in each labor market. Presumably, private agri-business firms would be induced to locate in these centers to the extent that it succeeded in attracting numerous farm families within the region.

If the services base were sufficiently extensive, families might be attracted for stays of several days or weeks. Visits of this length would probably be concentrated in the winter months during the agricultural off-season. Moviehouses, restaurants, and similar residentiary services would be designed at a scale exceeding existent competition within the region. Special activities (touring plays, carnivals, etc.) could be valuable supplements to the center's income if well advertised within the region. For visits of several days, the centers should also probably be located in areas with access to water-based recreational activities providing an additional impetus to summer visitations. Though a development of this scale might preclude one (or several) centers for each labor market, it could increase the opportunities for one-day and weekend recreational trips within the state by providing numerous complimentary attractions at a single location.

Due to the problems of generating sufficient seasonal peak loads, an important on-going component of the center's base is the provision of services competing with those in the smaller rural towns. If there is at least one center per region, the variety and scale of activity might attract over half of the region's weekend (and possibly, weekday) nighttime social activity in addition to a large share of the daily shopping within the labor market. This competition would probably have a substantially adverse impact on retail and services establishments in other communities of the region; the labor market's residents must trade-off the benefits of increased service accessibility with a spatial re-allocation of commercial activity.

Though many of these services are already provided to rural residents in a more dispersed fashion, proponents of this development plan emphasize the conscious role of legislative policy-makers in spatially allocating state-financed programs. By consolidating offices of particular state services, agglomerating forces in the private sector may produce a type and size of hinterland city which can extend the range and quality of services provided to rural families. It seems likely that the potential effects of such a policy have not been adequately explored in most states of this nation. (We know of few analogies in the governmental sector to the business impact study). Political considerations aside, legislatures have more leverage over these locational choices, and the consolidation costs would appear to be minor.

Small town subsidization

A final development approach would be to simply establish city size priorities for programs of the state and federal governments. These programs would presumably emphasize (1) the growth of new employment opportunities and (2) the development of residentiary services. Existing federal programs in housing, renewal, and education could be combined with state legislation enabling cities to extend subsidies to new business firms locating in these towns. This would constitute a decentralized-general strategy for development in that peripheral towns would be given priority choices in all governmental programs.

Employment goals might include keeping rates of increase in new job opportunities close to declining rates in the agricultural sector. As noted previously, the somewhat higher growth rates in peripheral manufacturing employment during the early 1960s suggests that this might not be an infeasible goal. Property tax forgiveness and subsidized leasing programs are among the many types of locally provided locational incentives found in other states. These programs require state enabling legislation and may be supplemented by state-wide development corporations providing low-interest loans for new firms and plants. Legislation which selectively discriminated between cities of different sizes might present political problems, though it is likely that these programs would be most attractive to communities slightly smaller than the larger central cities of most Iowa labor markets. These incentives could also be extended to retail and services establishments in the smaller rural communities of the region.

The over-all effects of these subsidy programs do not appear to be very strong. The most successful programs tend to be found in states experiencing high rates of economic growth generally and these programs appear to be smaller in the states that need them most. They also are most prevalent (though less successful) in states with very low per capita incomes and the existence of large urban markets or unique resource bases does not influence their success. Some evidence also suggests that their widespread adoption by many states in recent years may have neutralized their effects. (See [7] for a detailed discussion of both local and state-sponsored subsidy programs.) It seems likely that the observed decentralization of manufacturing employment growth has not been due to these types of locational incentives.

Rural housing construction is an important component of the objective to develop residentiary services. As suggested before, however, it seems that housing policy may be increasingly focussed on methods of more effectively utilizing the existent stock of dwelling units. This suggests that subsidies for conversions and selective improvements might be wiser particularly in communities where the existent stock may be inefficiently utilized. The conversion of very large single family houses (currently servicing a single retired person) to multiple family units provides an example. This would reduce maintenance expenses for retired persons with no high density alternatives and certainly would be preferable to the construction of entirely new units. The other problem entails the establishment of administrative methods of more effectively concentrating these programs in rural areas. As long as the smaller towns must compete for limited policy resources with every other incorporated community, the rural thrust of these programs will be seriously dissipated. The lack of administrative aids to smaller towns is also a serious impediment to the adoption of federally-sponsored housing programs.

This discussion provides only a few examples of development policies oriented along the twin spectra of centralizing:decentralizing and specializing:non-specializing influences on regional growth. It suggests that some additional effort might be devoted to a closer examination of the rural impacts of existing institutions and methods by which they might be locationally constituted to provide a more favorable living environment in rural communities. The choice of development strategy should be complementary to the stronger private forces affecting differential economic growth between the smaller and larger communities of these regions.

V. Conclusions

In this paper we have suggested a regional framework within which some of the problems of rural community development might be usefully analyzed. This approach emphasizes the growth patterns of services and employment near the rural resident as a central element in the changing pattern of population growth among cities of different sizes, rather than the depreciation of physical assets at the lower end of the city size spectrum alone. Central place concepts suggest the inter-dependence of trade centers of different sizes within a particular region; the causes of long-term decline or growth at a particular city scale are inter-related with changes occurring in other city size classes.

The labor market is a useful regional unit for studying the socio-economic changes affecting the health of the smaller rural towns, particularly from the viewpoint of employment location. Decentralization of economic activity will tend to blur the boundaries of these regions and the problems of services accessibility might require more spatially detailed delineations. The boundaries of Iowa's labor markets are probably least accessible to the full range of residentiary services available within these regions and establishing tolerable trip radii for different types of services would be a useful extension of present work. Though relatively little is known about changes within labor markets, our data suggest the following characteristics:

(1) Population growth and recent changes in housing markets will tend to favor centralized development within these regions. Extensive suburbanization of even the smaller central cities of Iowa's labor markets could increase their attractiveness by exerting short-run pressures on housing prices. Centralized population growth will increase the range of specialized services provided in the region by overcoming market barriers due to population size alone.

(2) Decentralization of secondary and tertiary employment expands as job opportunities in the agricultural sector decline. From the viewpoint of labor costs and productivity, the smaller communities of the region are probably quite competitive with the central cities of the labor market. This might encourage some increase in the average size of firms, particularly in the tertiary sectors. The disparity between decentralized employment and centralized population growth suggests that average journey-to-work trip lengths are increasing. This will increase the demands on transportation facilities within the region and may encourage less centralization of tertiary sector establishments.

(3) Policy discussions at this regional level generally emphasize the effects of institutions with logically coincidental market areas and the possibilities of encouraging particular growth patterns by the spatial coordination of governmental services. These development strategies may be expected to have different impacts on the services environment of smaller communities in the labor market. Though these effects may be diverse, development policies which encourage the general decentralization of economic activity and the specialization of cities in providing services seem most likely to provide the maximum development benefits to rural citizens. Neither of these development emphases require governmental re-organization within labor markets, but only the general recognition of this spatial region as a programming unit for governmental services.

TABLE 1

Population-employment growth and decentralization within rural labor markets, 1958-63[a]

	col. 1 Labor Market	col. 2 Central city	col. 3[b] City class (5-10,000)	col. 4 City class (2.5-5,000)	col. 5 City class (less than 2,5000)	col. 6 Outside central city
Population	6.3%	12.9%	12.6%	8.8%	0.1%	--
Employment:						
Retail	4.0%	.7% (161.1, 175.8)	1.9% (153.3, 152.0)	7.8% (163.9, 160.0)	10.8% (52.4, 54.3)	--
Wholesale	11.9%	8.6% (184.1, 175.8)	10.2% (132.5, 144.0)	10.9% (59.9, 57.5)	--	--
Selected services	11.5%	6.8% (190.1, 181.9)	5.6% (138.3, 138.4)	12.2% (127.8, 124.0)	19.2% (48.5, 47.0)	--
Manufacturing	11.9%	7.1% (159.1, 146.1)	--	--	--	14.4% (79.8, 82.3)
Agriculture	-26.7%	1.1%	--	--	--	-25.7%

[a] Growth rates appear in the top row of each cell. The indices in the second row are defined as (Ei/Pi) x 100 where E_i is the percent of regional activity accounted for by the i^{th} class and P_i is the percent of regional population accounted for by the i^{th} class. These indices, for 1958 and 1963, appear in parentheses below the growth rate.

[b] The population figures are ranges for the smallest regions in the sample. Three size classes were used in categorizing the labor market's cities so the upper population limit is flexible for the larger regions in the sample. See Lewis [5, pp. 184-188] for a detailed discussion of the classification procedure.

Legend: (1) Percent change in population, 1960-70
(2) Percent change in housing units, 1960-70
(3) Percent change in vacancies, 1960-70
(4) Percent change in housing units with inadequate plumbing, 1960-70
(5) Percent change in crowding, 1960-70

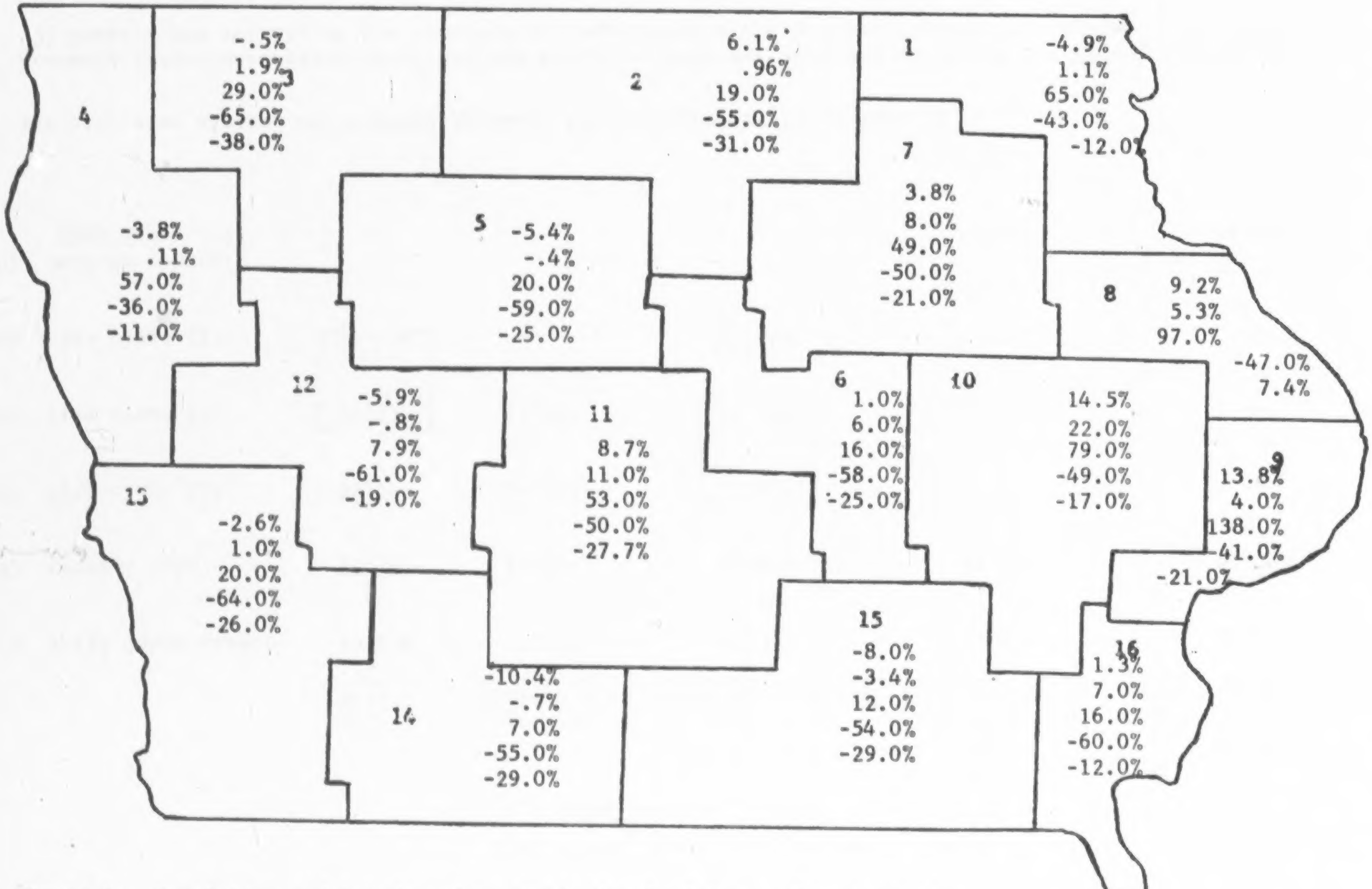
4
-3.8%
.11%
57.0%
-36.0%
-11.0%
3
-.5%
1.9%
29.0%
-65.0%
-38.0%
2
6.1%
.96%
19.0%
-55.0%
-31.0%
1
-4.9%
1.1%
65.0%
-43.0%
-12.0%
7
3.8%
8.0%
49.0%
-50.0%
-21.0%
5
-5.4%
-.4%
20.0%
-59.0%
-25.0%
8
9.2%
5.3%
97.0%
-47.0%
7.4%
12
-5.9%
-.8%
7.9%
-61.0%
-19.0%
11
8.7%
11.0%
53.0%
-50.0%
-27.7%
6
1.0%
6.0%
16.0%
-58.0%
-25.0%
10
14.5%
22.0%
79.0%
-49.0%
-17.0%
9
13.8%
4.0%
138.0%
-41.0%
-21.0%
13
-2.6%
1.0%
20.0%
-64.0%
-26.0%
14
-10.4%
-.7%
7.0%
-55.0%
-29.0%
15
-8.0%
-3.4%
12.0%
-54.0%
-29.0%
16
1.3%
7.0%
16.0%
-60.0%
-12.0%

Figure 1: Population and housing characteristics by labor market areas for Iowa, 1960-70

TABLE 2

Mean annual payroll per employee, rural labor markets, 1963[a/]

	col. 1 Retail	col. 2 Wholesale	col. 3 Selected Services	col. 4 Manufacturing (all employees)	col. 5 Manufacturing (production workers)
(1) Total labor market	$3,016	$4,513	$2,752	$4,957	$4,437
(2) Central city	$3,173	$4,956	$2,852	$5,102	$4,700
(3) City class (1)	$3,052	$4,478	$2,493	--	--
(4) City class (2)	$2,870	$3,840	$2,386	--	--
(5) City class (3)	$2,758	--	$2,659	--	--
(6) Outside central city (rows 3-5)	--	--	--	$4,728	$4,265

[a/] The city size classes are defined in cols. 3-5 and footnote b/ of Table 1.

[b/] Brackets indicate comparisons of average annual payroll per employee which did not differ significantly at the .05 level. The results of the statistical comparisons are described in detail in Lewis [5, p. 209].

Footnotes

[1] A detailed description of the rural labor market statistics summarized in Tables 1 and 2 of this paper may be found in Lewis [5, pp. 31-72].

[2] The population growth estimates in Figure 1 are taken from [8, p. 14]. The latter also provides detailed demographic characteristics (and their changes) for Iowa over the period, 1950-70.

[3] The data in Table 1 are based on the relevant census for each sector. The population data are based on estimated 1950-60 growth rates extrapolated to 1963. The other sectoral employment estimates are similarly adjusted to the 1958-63 base.

[4] The housing statistics were tabulated by the senior author from first-count estimates provided by the Census Bureau. These estimates may be subject to subsequent revision. County estimates for the housing statistics in Table 1 are available on request.

[5] As discussed below city class differentials in average earnings remained significant despite decentralizing employment growth over the period, 1958-63. A comparison to present earnings differentials might reveal a substantial narrowing of the gap between the largest and smalest communities of these regions.

[6] The national labor market statistics are discussed in further detail in [5, pp. 61-71].

[7] These regression statistics are reported in [5, p. 207 f]. Further regression comparisons by city class and their estimated beta coefficients tended to corroborate the relatively greater importance of productivity measures in explaining earnings differentials.

[8] These relationships are discussed further in [5, p. 216 f].

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[2] Fox, Karl A., "Metamorphosis in America: A New Synthesis of Rural and Urban Society," in Gore, William T. and Leroy Hodapp, eds., Change in the Small Community, An Interdisciplinary Survey, pp. 63-104. (New York: Friendship Press, 1967).

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[7] Prescott, James R. and William Lewis, "State and Municipal Locational Incentives: A Discriminant Analysis," National Tax Journal, Vol. XXII, September, 1969, pp. 399-407.

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NATIONAL, REGIONAL, AND STATE AND COUNTY INDUSTRIAL GROWTH TRENDS AFFECTING RURAL AREA DEVELOPMENT IN IOWA

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"...there is little evidence...to suggest that some areas of the state have a strong advantage in industrial growth."

"Rural communities have a high likelihood of increasing their share of the state's manufacturing employment, but there is less likelihood that the amount of growth incurred will have as much impact on the communities' economies as the local promotors may wish."

"The greatest increases of manufacturing of most rural areas are in firms that have little obvious tie to the local resources and local markets of these areas."

6

RURAL DEVELOPMENT programs may have one or more of several possible goals. Some different kinds of goals that have been suggested are: 1) increase the per capita income of the population that remains in rural areas, 2) increase the level of economic activity in order to utilize more fully the existing capital structures, 3) increase the rural population to avoid excessive concentration of population in the metropolitan areas.

The set of goals that is selected may place some restraint on the package of means that is available to accomplish the ends. For example, if per-capita-income-increase is the only goal, we might consider programs that would accelerate out-migration in order to remove a surplus of labor. If, however, we wished to pursue each of the above goals simultaneously, we could not accept a program that was designed to reduce population. We would be limited to expansion-oriented programs. Among these might be the attempt to add or expand industries which do not require large amounts of land per worker. In general, this would include as possibilities almost all industries except agriculture and outdoor recreation.

New firms might be attracted by the local market opportunities or by local supplies of factors of production. The demands of the local market at any point in time are being supplied partly by existing local firms and partly by imports. There may often be some opportunity for a new local firm to produce and sell goods or services that were being imported, but employment growth by this method will not likely be spectacular. In rural towns new firms occur to some extent as agribusinesses expand, but a reverse effect also occurs as consumer-oriented businesses lose their markets to larger retail centers. Typically, the industries or firms which are most sought are those that sell to a nationwide or worldwide market. The attraction for these must be in the local supply situation for one or more of the factors of production. These factors include natural resources, the work force, utilities, transportation, capital, and others. Peripheral considerations may include the tax structure and local community amenities.

Manufacturing is the largest of those sectors or parts of sectors that sell primarily to a multi-state, national, or world market. In 1968 approximately 30 percent of the nation's earnings from non-agricultural industries originated in manufacturing.[1] Manufacturing is the only sector large enough to provide a stabilizing of employment for large numbers of rural counties in the United States in the next decade. Some rural counties will experience a growth based on other sectors, but this cannot be true for most of them. This paper, therefore, concentrates on the potential for a shift of manufacturing to rural areas.

One possibility for the future is that recent trends in geographical distribution of industry will be continued. A study of rural industrial growth in the 1960's (see Table 1) by Haren[2] outlines some of these trends. He found that almost 75 percent of the manufacturing jobs of the nation were located in the 193 largest labor market areas at the end of the 1960's decade. During the 1962-69 period, however, more than a third of the growth in manufacturing employment occurred in the non-metropolitan labor market areas. The large labor market areas in his study correspond approximately to the standard metropolitan statistical areas of the nation. Most of them, therefore, include a city of 50,000 or more population. Haren's data show that non-metropolitan areas had the highest annual rate of manufacturing employment growth in each major region of the United States except the West. But the 1962 non-metropolitan manufacturing employment base was also smaller than the metropolitan base in each region of the United States except in the South where the two were almost equal. In absolute terms, only the South had a larger manufacturing employment growth in non-metropolitan compared to metropolitan areas. In the Northeast and North Central regions the higher growth rate of the non-metropolitan areas was offset by the smaller beginning base. In the West the non-metropolitan manufacturing base was relatively very small and the growth rate was also less than in the metropolitan areas.

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[1] U.S. Department of Agriculture, Economics Research Service, Rural Development Chartbook, Washington, February, 1972.

Haren's analysis shows that while 37 percent of the manufacturing employment growth during 1962-69 was in non-metropolitan areas, the variation among the four regions was from 11 percent in the West to 54 percent in the South with the Northeast and North Central regions at 33 percent and 27 percent respectively. In the South rural industrialization might be described as a major development. In the West it was of little significance. In the North Central and Northeast regions rural industrialization might be described as of moderate importance.

The importance of manufacturing and the impact of industrialization on any area are not fully revealed by looking only at manufacturing employment and employment changes. It is also necessary to compare the magnitudes of the employment and the change relative to the size of the total economy of which they are a part. We can make these comparisons by dividing both the manufacturing employment for any one year and the change over any period by the population of the area. These employment-to-population ratios can be compared across regions for measuring the importance of manufacturing relative to the local economies at a point in time and also the relative impacts of changes in manufacturing employment over a period of time. Table 2 provides some comparisons.

For the nation, there were 92 manufacturing workers in 1962 for every 1,000 persons in the 1960 population. The gain in manufacturing employment by 1970 was equivalent to 18 workers for every 1,000 persons in the

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[2] Haren, Claude C., Rural Industrial Growth in the 1960's, American Journal of Agricultural Economics, Vol. 52, No. 3, August, 1970.

Table 1 Manufacturing employment, 1962 and 1969, and annual gain, large and small labor market areas, United States and major geographic regions[a]

Area designation and size of labor market area	Employment		Annual gain		
	1962	1969	Number	Rate	Allocation
	thousand		thousand	percent	
United States					
Large[b]	12,113	14,141	290	2.4	63
Small[c]	4,502	5,673	167	3.7	37
Total	16,615	19,814	457	2.7	100
Northeast					
Large	4,564	4,803	34	0.7	67
Small	950	1,072	17	1.8	33
Total	5,514	5,875	51	0.9	100
North Central					
Large	3,961	4,776	117	2.9	73
Small	1,387	1,693	44	3.2	27
Total	5,348	6,469	161	3.4	100
South					
Large	1,889	2,478	84	4.4	46
Small	1,870	2,561	99	5.3	54
Total	3,759	5,039	183	4.9	100
West					
Large	1,699	2,084	55	3.2	89
Small	295	347	7	2.5	11
Total	1,994	2,431	62	3.1	100

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[a] Adapted from statistics reported in May 1963 and May 1969 issues of Employment and Earnings and Monthly Report of the Labor Force [36], supplemented by data furnished by research and statistics divisions, state employment security agencies.

[b] Patterned after May 1969 listings, which included 193 large labor market areas.

[c] Residual determined by subtracting figures for large labor market areas from statewide totals.

Table 2 Manufacturing employment per thousand persons of 1960 population, and manufacturing growth percentage by county groups

Area and County Type	1962	Change 1962-70	Manufacturing growth
	(workers per 1,000 people)		(percent)
Nation			
All counties	92	18	19
Metro	109	17	17
Non-metro	75	18	26
Northeast			
Metro	122	6	5
Non-metro	143	16	13
North Central			
Metro	120	25	21
Non-metro	74	16	22
South			
Metro	66	21	31
Non-metro	70	26	37
West			
Metro	81	18	23
Non-metro	41	7	18
Iowa			
Metro	98	24	24
Non-metro	40	15	38
Semi-metro	85	25	30
Semi-rural	25	12	47
Rural	14	9	66

1960 population. In national averages, the gain was about the same in metro and non-metro areas, but the metro areas had a great relative concentration of manufacturing at the beginning of the period. The non-metro areas of the South and the metro areas of the North Central region had the highest industrialization impacts. Lesser impacts occurred in the metro areas of the South and West and in the non-metro areas of the Northeast and North Central regions. Much lower industrialization impacts occurred in the metro areas of the Northeast and in the non-metro areas of the West.

If the past is an indication of the future, the diversity of regional trends seems to tell us that anything can happen. Large manufacturing gains both absolutely and relative to population can occur as they have in the South. On the other hand, non-metropolitan areas may fail to capture much of the industrial growth as they failed to do so during the 1960's in the West.

Haren also reports that about half of the gains in manufacturing employment in the non-metropolitan areas occurred in the rural and semi-rural counties. These two groups include the counties that do not have a city as large as 10,000 population. He noted that growth in these types of counties was most pronounced 1) within the Great Lakes industrial belt, 2) in an arc west of this belt extending into Minnesota, Iowa, and Missouri and 3) throughout much of the South.

Table 2 also provides an analysis of Iowa counties. The counties are divided first into metro and non-metro groups corresponding to those with cities larger than 50,000 population and those whose largest city or town is smaller than 50,000. The Iowa pattern follows the North Central pattern very closely. Metro counties experienced a high industrialization impact and the non-metro counties as a group experienced only a moderate impact.

An additional breakdown of the non-metro counties exposes some variation in this group. Semi-metro counties are defined as those having at least one city between 10,000 and 50,000 population. This group experienced an industrialization impact as large as that of the metro counties in Iowa and the North Central region. Low to moderate effect was experienced by the semi-rural counties which include those having a town or towns between 2,500 and 10,000 population. The strictly rural counties, those with no town as large as 2,500 population, had the lowest industrialization impact of the counties of Iowa. They were comparable in this respect to the metro counties of the Northeast and the non-metro counties of the West. These rural counties did, however, have a manufacturing growth rate higher than any of the other county groups where the rate is based upon the 1962 manufacturing levels of the county groups. If similar growth rates can continue, most of the rural counties in Iowa will escape the rural category during the next one to two decades. In other words, they will increase the size of one of their towns to beyond the 2,500 population level.

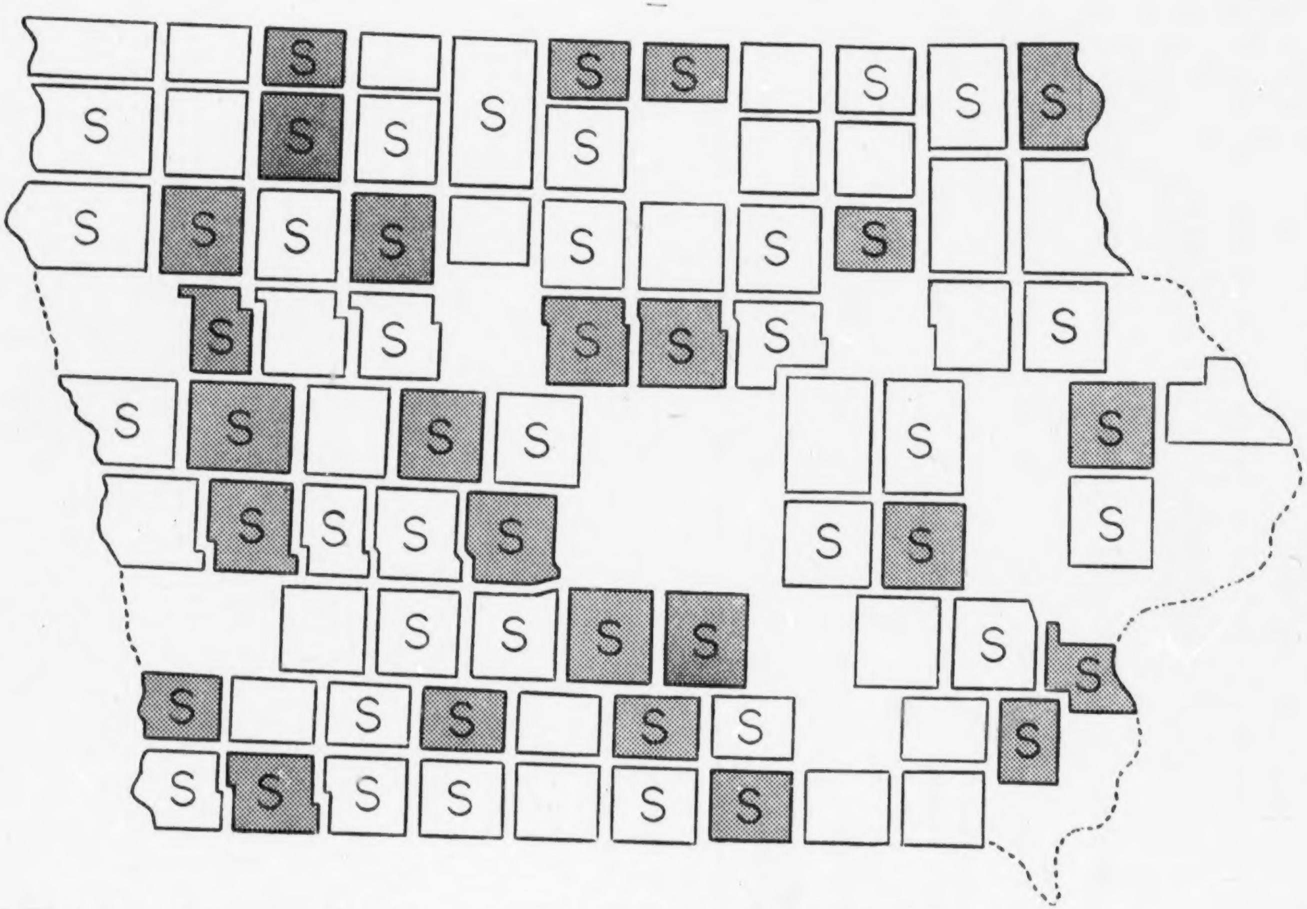
Approximately 56 percent of Iowa's industrial growth in the 1962-70 period occurred in the non-metro counties. The semi-metro and semi-rural counties accounted for over 90 percent of the non-metro growth and each group had about an equal share. A conclusion based on trends is that towns of less than 2,500 population will not typically recruit and absorb enough industrial employment to substantially alter the rural depopulation trend in their trade territories. On the other hand, many towns between 2,500 and 10,000 population may be able to serve as important recruiting and absorbing centers for additional industrialization. If this is true, it does place a potential industrial employment center within 25 miles of almost all Iowa residence locations.

The geographical spread of rural industrialization was noteworthy in Iowa during the 1960's. The eastern third of the state has frequently been identified as the fringe of the Chicago-Great Lakes industrial belt, and increasing industrialization in both cities and towns has been expected there. In growth rate and impact terms, however, industrialization spread across the entire state and into many rural counties in the 1960's. Figure 1 illustrates that the rural counties which increased their share of the state's manufacturing employment (all shaded counties) are scattered across the entire state with little or no discernible geographical concentration. The heavily shaded counties are those which had an industrial employment increase equal to at least 15 employees for every 1,000, 1960 population. Industrialization at this level can be called at least moderate with respect to the size of the existing economy. The heavily shaded counties, therefore, all had moderate or greater industrial growth impacts in the 1960's. These types of counties are also located in all parts of the state with little obvious pattern except a random scattering. After adjustment for the differences in community size, there is little evidence in this information to suggest that some areas of the state have a strong advantage in industrial growth. Larger communities do tend to attract larger increments of employment growth, but many smaller communities of 2,500 or more population do well on a per capita basis.

For an analysis of the attractive force of supplies of local resources or of other local conditions in Iowa, it is helpful to divide manufacturing operations into four types as shown in Table 3. These are 1) processing of agricultural products, 2) producing non-feed agricultural inputs, 3) processing other local resources, and 4) little non-labor local attachment.

The processing of agricultural products might be expected to be a major type of enterprise in Iowa because of the volume of agricultural products that are available. Both meat and grain products have been major outputs of Iowa agriculture for almost a century, and the production of both have been increasing in volume terms. However, during the 1960's, the number of people employed in meat packing, grain processing, and other agricultural products processing has risen only slightly. The employment in these types of plants was 48,000 in 1962 and 50,000 in 1969 or an increase of only 2,000. The number of firms engaged in the processing of agricultural pro-

Figure 1. Manufacturing employment growth in Iowa's semirural and rural counties, 1962-70.



s 1962-70 increase in county's share of state manufacturing employment.

▨ Manufacturing growth equivalent to 15 or more workers per 1000 1960 population.

☐ Other semirural and rural counties.

Blank spaces are occupied by semimetro and metro counties.

Table 3 Types of manufacturing in Iowa by employment and number of firms, 1962 and 1969

	Employment (thousands)			Firms (number)		
Manufacturing type	1962	1969	Change	1962	1969	Change
Processing of agricultural products	48	50	2	981	676	-305
Producing non-feed agricultural inputs	21	24	3	166	169	3
Processing other local resources	6	7	1	360	376	16
Little non-labor local attachment	80	123	43	1,128	1,277	149

ducts declined almost one-third from 981 in 1962 to 676 in 1969. Most of the disappearing firms appear to have been small locker plants and meat processing operations and small grain and feed mixing plants.

The large agricultural sector in the state creates a demand for agricultural inputs. Feed inputs are included in the previous category primarily because feed processing and food processing activities cannot be separated in the available data. Non-feed agricultural inputs include farm implements, livestock equipment, biological products, and other minor categories. The producers of non-feed agricultural inputs in many cases sell to a much wider market than the Iowa territory. However, there is still reason for them to be based in Iowa because a large part of their market could be and probably is in this state. The employment of this category of manufacturing was 21,000 in 1962 and 24,000 in 1969. The 3,000 employment increase is small in comparison to the total 50,000 increase in manufacturing in Iowa in this period. The number of firms engaged in producing non-feed agricultural inputs stayed almost the same during the seven-year period. One hundred and sixty-six firms were in business in 1962 and 169 in 1969.

Processing of other local resources has not been a large category in Iowa in comparison to total manufacturing. Employment was 6,000 in these operations in 1962 and 7,000 in 1969. The number of firms involved increased from 360 to 376. Other local resources include stone, gypsum, clay, limestone, and some small forest and woodland areas. The extraction of gypsum and limestone is, of course, a mining operation and additional employment is involved in that sector. Manufacturing employment is involved only where there is further processing of these mined products, such as drywall board from gypsum and cement from limestone.

More than half of Iowa's manufacturing employment was not involved in the first three categories in 1962. At that time 80,000 people were employed in industries that had little or no attachment to either local non-labor resources or local markets. These industries obtained almost all their supplies from beyond the Iowa borders and they sold or could easily sell all or most of their output to markets beyond the Iowa borders. Over 1,100 firms of this type were engaged in manufacturing in Iowa in 1962. By 1969 an additional 149 firms had been added, and the total employment in this category had risen to 123,000 for an increase of 43,000. This represented almost 90 percent of the manufacturing employment increase during this period. More than 200 different types of products are produced by these firms. Examples are heating equipment, foundry products, plastic materials, communications equipment, artificial flowers, conveyors, railroad cars, electronic components, specialized pumps, sporting and athletic goods, signs and displays, metal stampings, boiler shop products, construction machinery, writing instruments and household laundry equipment. The recent growth trends in these and other non-attached firms suggest that prediction of the types of Iowa manufacturing that will grow in the near future will be difficult. It is likely that the obvious categories, the first three listed in Table 3, will approximately stay the same in total employment. The manufacturing employment increases, if they occur, are likely to be among the wide range of products for which Iowa does not appear to have any obvious advantage over many other states.

The distribution of industries among communities of the state is another facet of rural industrialization. It was previously noted that counties with no town as large as 2,500 did not experience, on the average, as large an industrialization impact as those counties with larger towns. We might infer from this that most towns of less than 2,500 population have had difficulty in recruiting or creating manufacturing employment additions that were as large relative to the size of the town as the additions that occurred in larger towns. The small towns which are within easy commuting distance of larger employment centers may have found it relatively easier to maintain their populations and sometimes grow through commuting rather than through local industrialization, and the citizens may be satisfied with this arrangement. Smaller towns in those parts of Iowa and other states that are not within easy commuting distance of larger centers, however, need to look mare closely at the possibility of industrialization. It is perhaps the only immediate solution for reversing their population declines.

The probability that a town of a given size will acquire a new manufacturing plant would seem to be related to the size of the plant. There is little more than zero probability that a 2,000 population town could acquire a 5,000 employee plant. Even a 500 employee plant would probably be beyond the capacity of the town to furnish utilities and other local services to the plant. The town certainly would not have the additional housing immediately available. If most manufacturing plants were of the 500 employee or larger size, there would be little opportunity of rural industrialization in towns of less than 5,000 population.

An analysis of plants by size (see Table 4), however, shows that for all manufacturing types the plant at the 30th percentile has less than 10 employees. A plant of this size might easily be located in a town of less than 500 population without straining the capacity of the local utilities and other services. Several plants of less than 10 employees each might be in such a town, although it is seldom that we find this to be the case.

The average employment per firm in the various manufacturing types shows variation, but even the highest average is less than 150 employees for the category "producing non-feed agricultural inputs." At the 90th percentile level we find firms of slightly over 200 employment in the non-feed agricultural inputs and the non-attached categories. Firms of this size are found in a few towns of less than 2,500 population. A general conclusion might be that 90 percent of the firms in manufacturing could, by size standards alone, be located in rural counties, and that perhaps 50 percent of the firms could be located in towns of less than 1,000 population. Only a small proportion of the manufacturing plants

Table 4 Employment per plant by manufacturing type, Iowa, 1969

	Employment per plant		
Manufacturing type	Average	30th Percentile	90th Percentile
Processing of agricultural products	49	7	147
Producing non-feed agricultural inputs	144	7	203
Processing other local resources	19	4	45
Little non-labor local attachment	97	6	217

are in such locations now. Many of them are in larger cities, probably for a number of reasons, but their size is not such as to automatically eliminate them from small town consideration.

The conclusions that may be drawn from this total analysis are:

1) Some dispersion of manufacturing is occurring nationally with a shift from the densely populated areas of the Northeast into less crowded metropolitan and rural areas of the East and South, and the North Central Region.

2) Manufacturing will continue to be the dominant export-oriented sector of the nation, even though its share of total employment is decreasing.

3) The greatest increases of manufacturing of most rural areas are in firms that have little obvious tie to the local resources and local markets of these areas.

4) Rural communities have a high likelihood of increasing their share of the state's manufacturing employment, but there is less likelihood that the amount of growth incurred will have as much impact on the communities' economies as the local promoters may wish.

5) If rural industrialization proceeds at the pace of the past few years, those communities already partially industrialized have the greatest likelihood or potential for offsetting agricultural employment losses. The rural communities which are just beginning to industrialize will, in the next decade, do little more than build a manufacturing base that can then further grow in the 1980's to offset agricultural employment losses at that time.

6) Manufacturing employment increases will acount for the majority of rural developments that produce population maintenance or growth. However, some rural communities will also continue to find opportunities through the export-oriented firms of other sectors.

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